1921. (also 1922 & 1923)

1921.1. Syracuse, Hamilton Co., Kansas. Aug. 2, 1921. (R.) Elev. 3220-3300 feet. Sand hill area south of Arkansas River. Work done along sandy road, on the slopes of sand hills, tops, and in dry swales between. No wet spots, no blow-outs, sand fairly well covered with bunch grass, sage-like plant (sample no. 1) and tall woody plants Artemisia filifolia Torr. Ptelea trifoliata running on sand.

Parabacillus beaten from tall weeds.

Diapheromera beaten from grass, weeds & sample taken plant.

Stagnumantis numerous, all immature.

Cadillaeris not common, as usual on ground. Akentrotus scarce, but one seen, taken. Agaricotettix not common, on ground or in bush. Aulocara scarce, but one seen, taken, on ground among weeds. Acrolophitus but one seen, taken. Paropomala common, on grasses chiefly, but also on other vegetation. Rhiscotera longipennis numerous but wary - waving flight. Hadrotettix chiefly on slopes of sand hills, all seen taken. Trimerotropis agrestis numerous, almost entirely along road - wary and fairly strong fliers. Spk. cris taken

more generally distributed than D. agrestis but preferring sandy patches, common, active. Schistmum sp. numerous, thing flies, most taken rather general, frequented the taller reeds. Dactylotum numerous on ground, some of the pairs were mated, but have broken loose. Aeoloplus sp. scarce, all ♀♀ taken. In bush of which sample was taken also tall reedy, non-descript plant. Melanoplus differentialis were taken about reed. M. bivittatus one in reedy spot in the hills, ♀ and others seen. M. sp (fourth?) in fair numbers, generally distributed, variable.

in size. Mel. 2 (2 mostly
common, almost
everywhere, variable in
size. Campylacantha 1 only
seen + taken - rather unusual -
in bush of which sample was
taken. Chaetochloa setigera
All seen taken.

133

1921.2 Same as 1921.1
but on high plains N.W.
to north of town, Elev.
3480 feet. Only uncultivated portion was closely
grazed short grass,
with many narrow-
leafed yucca + scattered
indigo-like weed with
pale blue flowers.
Material local, for
more numerous in
muddy patches.

Litanustria 1 jun. running
in grand. Meniica
nicon. 1 B in wods. Apia
1 cane in open. Cadillacia
nne numerous in ditto.
Amphitonus 1 cm + taken
Agenotettis numerous, in
fruss + in grand. Aulocra
1 cane, in fraos.
Hippiscus 2 gf taken,
all cm. klis. Longipenis
numerous + active.
Hactylotus 1 pair cm +
taken. Hesperotettix
sp. numerous, in weeds
chiefly. Hesp. pratensis
1 taken in ditto. Melan
plectrus type (P) numer-
ous, particularly
in mud patches.
Mel. atlanis 1 B taken
jumping. Mel. flab.

type 4 ♀ ♀. Mel. regalis
type 18 sumpt.
Meso-rb. kinsa commun,
Lasiocitt. not scarce,
on ground. Acanthus
3 ad (♂+♀) + 1 juv. sumpt
from roads.

133 + 68 = 201

1921. 3 Summit of Raton
Pass, Colfax Co., New
Mexico. Aug. 4. 1921
(R.) Elev. 8000 to 8200 feet.
No high timber, scattered
cone pines with patches
of oak scrub (dwarf
oak) as high as men's
heads, grassy patches
between, none very wet,
a few bare patches
with sandstone fragments.
Material scarce, hand
search usually necessary.

Chloraltis ald. 1 jun. Impt.
Ranunculus in more frequent
males, all seen taken.
Symphoricarpos not common
in grassy spots. Cannula
ced. in ditto. Sphagnum
in a near oak scrub -
scarce. Trim. suff. Scarce,
all seen taken, in jun.
Diaperot. pratensis scarce,
all seen, adults - jun.
taken, in grassy areas.
Melampsora atl. scarce.
M. dawsonii not common,
all seen taken. Mel. -
minimo, only spores
so in grass - base spots.
Eriotheca 1 ♀ taken in
one spot - scarce
with care revealed
no others. Mel. dawsonii
201 + 57 = 258
not common
in near
oak scrub

1921. 4 Grade to Raton Pass Summit, N. side, Colfax Co., N. M. Aug. 4, 1921 (R.) Elev. 7400 - 7500 feet. Park like tall pine grass, in grassy stretches between. Almost no O. All taken seen. 1 Colletes, 1 ad. + immat. Dasy-ruff. 2 immat. Mel.

256 + 5 = 263

1921. 5 Cliff on Hwy 8 m. due S. of Raton, Colfax Co., New Mex. Aug. 4, 1921 (R.) Elev. 6360 to 6400 feet. Open plains, rolling with low knolls. Latter barren than slopes and flat and more stony. Between knolls sunk-like but dry depressions. Latter with long grass, much

of a indigo-like, blue-flowered, ghostly plant, lots of Carduus, large brown-eyed daisy and cane-flowers. Flats with short grass, scattered Carduus and a few other plants. Parabaptes / taken from tall grass in swale.

Striaplecta common in burn up flats, all seen, taken. Plebeina ditto in lowly sections. Cardillacea both species in burn ground. Agaricoletes [illegible], as usual basking in grass tufts. Aulocara elli. / taken, all seen. Arphia 2 spp. all seen, taken.

Acrolophites not uncommon on the knolls, all seen and taken.

Metaltr 1 ♂ 1 ♀ all seen, taken in bare knolls, Mestrb. plattei 1 seen in ditto. M. keiana abundant, everywhere. Hadrotettix locally numerous, more on bare knolls. Aphan. aegrale numerous as with Hadrotettix, make a distinct crepitation. Orch. monticola not common, all seen taken on bare knolls. Brachystola a single female taken up in a thistle (Cardeus). Hadrolotrna 1 seen, 2 ♂ seen & taken. Mel. packardi 1 ♀ & 1 seen, in the knolls. Mel. flabellifer generally distr., common. M. atlanis generally distr., 1 seen than

flabellifer .. Mel. regalis a single female taken, all sun. Anthophora gracilipes 2 ♂ 4 ♀ taken from grass and indigo-like plant. 1 ♂ escaped.

263 + 146 = 409

Nesopist. viridis not common, in grass land. Campylacantha many jaw but long search produced but one adt. Eritettix 1 ♀ in short grass. Œcanthus beaten in tamarisk.

1921. 6. Raton, Colfax Co., New Mexico. Aug. 4, 1921 (R.) Elev. 6600 feet. Open rolling plains ab. 2 m. so. of town.

Parabuellia numerous in tall grass, both sexes taken. All bratus. Agueottia but one sum. Endelaria, both sp. in, C. occip. but 1 sum, crenulata more numerous. Sphagnum aequale but 1 sum. Mesob. Reina numerous. Mel. flab common. Mel. pachandi found in heavy litter. Acantha numerous, bratus from rank vegetation along an incipient wash.

409 + 36 = 445

1921.7 Johnson Mesa, Colfax Co., New Mexico Aug. 5, 1921. (R.) Elev. 8200 feet. Open grass

sand on the top of the mesa, great quantities of prairie flowers, scattered lava fragments.

Eritettix 1 ♀, all over. Gomphocerus fairly numerous. Melanoplus dll. 18, 1 ♀ all over. Camnula numerous, many juvs. Mestobregma Kansa & camn. ad & juv. Hesperotettix pratensis single ♀, all over. Mel. atlanis & camn. Mel. packardi & camn. Mel. dawsonii not uncommon. Mel. ♀ minimus but not common.

445 + 68 = 513

1921. 8 East Fork of Chicorica Creek, above Yankee, Colfax Co., N. M. Bets. Barilla - Johnson Mesas. Aug. 5, 1921. (R.) Elev. 7500 feet. Grassy & weedy field, with a little wasted land, bordered by oak scrub. In relatively deep canyon.

/ Bettis sweeping. / Eritettix vanae. / Amphitornus in tall grass. Hesperotettix viridis not common, in grass, all nymphs taken. Agenotettix deorum & vancei, in grass. Cannula hesperus / nymph. Melanoplus scudderianus. Trim. minutus. / nymph. Trim. scuffi. Type not taken on enclosed track, capitatus - Sphargemon / nymph taken along edge of oak

1 ♂ ad. + juv. Mel. brittatus numerous, colon dimidiatus. Mel. 1 ♀ ad., 2 males only. Mel. ♂ numerous. Mel. dawsoni not common. Mel. atlanis not common. Mel. "plumbeus" 1 ♂ ad. Hesperomys. viridis 1 ♂ ad., all seen taken.

513 + 67 = 580

1921.9 Wagon Mound, Mora Co., New Mexico. Aug. 6, 1921. (R.) Elev. 6200-6400 feet. On slopes of lava buttes, summits of buttes and on gentle slopes largely rabbit and cowd at base of buttes Perognathus all except from traps & rabbit mound at base of - on slopes

Pseudocumyla in same situation as Parabaillya. Eritettix scarce on slopes & at base, always in ground. Aulocara 1 juv. in rabbit weed area at base. Cordil. Caeria at base of buttes. Phlibostroma all juv. on slopes & at base of buttes. Mestob. plattei scarce on buttes in area fragments, all ♀♀ taken. Arphia pseudon. 1 ♀ taken in rabbit weed area. Mestob sp. all juv. on slopes & at base. Dissosteira carolina 1 ♀ taken on limestone outcrop at base of buttes, Hesperotettix viridis 1 on slopes. H. pratensis 1 on slopes. Campylacantha 1 ♂, all these

immat. in slopes
only in rabbit track
long tracks made by
more adults. Melan.
Sh. w. corn. 3 summers
but local - vary in perhaps
of rather rank vegetation
beds. lava fragments
on hill slopes. The
ones taken resemble
long - tailed mouse,
and they are very
difficult to capture.
Mel. flabelliger occ. in
rabbit mud area at
base. Mel. long-winged
Cricos 3 all seen
in rabbit mud area
at base. Blackylotus
1 in rabbit mud area
at base. Pediodectes
1 in rank vegetation

between Larrea fragments on little slopes, same situation as Oh. w. Mel. Ulmaultum broken from heavier vegetation on little slopes.

580 + 75 = 655

Skiaphura on flat.

1921. 10. Mesa east of Albuquerque. Bernalillo Co., New Mexico.

14 Cudrotellus in rabbit mud area at base. Klossteria on road.

Aug. 8. 1921. (R) Elev. 5250 - 5500 feet. Largely Larrea + small rabbit mud quantities of tumble mud, little grass. Kitunculia, all juv. remaining on the ground. Skiaphura scarce, on bare ground, all seem

taken. Carbonaceus / just all seen. Cardillacius occipitalis numerous, most uniformly distrib. species. Asphia sm. just only. ~~Not~~ Hipp. coralliger numerous, generally distributed. Hipp. sm. species, / ♀ only seen taken. Herbstmanni hayden single ♀ seen taken. Drim. circulata 1 seen. Drim. praeclara (?) / ♂ only seen taken. Heliothis armiger numerous but local. Heliothis rufa / ♀ only seen. Bradyotoba fins, only at 5500 just in zone of cacalent vegetation. Hesperotettix viridis my local, 1 seen at 5500 just in ribes veget.

Mel. turbaceus scarce
in mal at 5000 feet. Mel.
flab. 1 ♀ only at 5000 feet.
Anthoa. 1 ♂ at 5250 feet
1 juv. at 5500 feet, location
not ♂ rabbit weed. Eremo-
pedes allofasc. scarce, mostly
juv. location from brush
at 5250 - 5500 feet.

655 + 70 = 725

1921. 11. Corales, west
bank of Rio Grande
opp. Alameda, Berna-
lillo Co., N. M. Aug. 8, 1921
(J. R.) Elev. 5000-5200 feet.
Brown sandy hills with
vegetation, chiefly large &
small rabbit weed
and another plant
(sample taken) very dry
- barren otherwise, almost

Porosela scoparia (Gray)

no Orthoptera except on the plant of which sample was taken, and more rarely the Lepus rabbit used. Diaphromera extremely abundant on ~~latta~~ sample plant, more rarely on rabbit used, most females mated, representation series taken, Pseudomermyle taken with Diaphromera but quite ~~not~~ rare, 2♀3♂ all seen, altho' prolonged search was made for them. Paropmala very rare in sampled plant, 3♀ taken. Deinacrus 1 on ground. Trim. Tryxalis 1 ditto. Melchart. Type scarce on vegetation, all kinds.

extremely difficult to capture. 1 Dactylotrum on ground. Plagiodontia 1 ♀ taken in trap rabbit used- prolonged search failed to locate others - this was not beaten, but seen.

725 + 94 = 819

1921. 12 Albuquerque, Bernalillo Co., N. M. Aug. 9, 1921. (R.) Elev. 4805 feet. In rather wet bottom-land with coarse grass and a few small patches of alfalfa. About 4 m. S. of city.

Neotoma cinerea mexicana not rare in tall grass, all seen taken. P. nigrita

in same locality, a single
♂ taken. Settigulus in
bare wet spot. Asphaltella
in heavy snow vegetation
+ alfalfa. Melanoplus
femur-rubrum in same.
Conocephalus in ditto.
Neonbius ditto.

819 + 64 = 883.

1921. 13 June 1921. In
but in area of mud
flats, mostly dry, with
scattered tufts vegetation
& vegetation, & in
in depression. Acoloplus
in Atriplex solely, common
active and elusive,
many taken by hand
others beating. P. campestris
1 ad. ♂ from rabbit nest,

prolonged search failed to show them. Mastotermicolor on bare mud areas, elusive but all sex taken.

883 + 63 = 946

1921. 14 Holbrook, Co., Arizona. Aug. 10, 1921. (R.) Eller. 5700-5200 feet. On red shale escarpment north of town, on top of this in a sandy loam, in places pure sand. Common rabbit mud and other species of which samples were taken and some short grass. Stuff very scarce, combed nearly 4 hours and covered ab. 8 miles.

Pseudocercyle beaten from rabbit mud (1♂). Paroposmala in ♂ only, in grass. All

photo taken → Atriplex confertifolia Wats.
Chrysothamnus sp.
ab. bolanderi
viscida
Grindelia cuneifolia
Nutt.
Triperotropis – 3 species –
in bare patches of sandy
loam & almost pure
sand. Plagiobothrys 28. 1 sp.
taken from 3 species of
mashes / samples of all
taken, long and painstaking
search made for more,
with eye work & beating.
Of those captured / was
beetle, 2 coated with
eyes. Excavations solely
in mash – in sample examined
made / what sample
was taken – no adults
of 4 species. Poliomintha incana (Torr.)
946 + 21 = 967
Same P.M. Mahins done
in wash ditches along
the R. R. track, on mud
flats and then off to
the north a distance

and along the slopes of the escarpment. Stone turning, trating, poking + sweeping all pound of little value. One small colony of Myst. terricolus was located on a most unpromising small mud flat. + 28. 1 ♀ seen. It was absent from great stretches of seeming by more inviting flats. 1 ♂, 1 ♀ Emmoptoloptus + 1 Eph. were taken in grass along the r. r. track.

967 + 8 = 971

1921. 15. Gallup, McKinley Co., New Mexico. Aug. 12. 1921. (R.) Eales. 6700 to 6800 feet.

Mrb done in hills four miles to east, on facing slopes of two parallel hog back hills and valley between. Bottom of valley largely sage, some tumbleweed, slopes with juniper + pinon.

Collecting extremely poor. All species seen taken, individuals extremely rare.

Perognathus in a few rabbit-weed, no mals found. Mrb. mides in sage. Neotoma bare spots into sage. Dipo. gracilis tails. Large Mulids running on ground.

971 + 10 = 981

1921. 16 Vaughn, Co.
New Mexico. Aug. 13,
1921. (R.) Elev. 3971 feet.
Rolling plateau plains
grabby weed, grass, thistle, ragweed, &
with native vegetation largely
reduced by close grazing.
Material very scarce, in
species & individuals -
much immature. Litan-
cuttia 1♀ running on
ground. Cordillanis
occipitalis 1♀ on ground.
C. cremulata more numer-
ous in similar situations;
18, 5♀ taken. Dipsias
corallipes in fair number
shy, 3♂, 5♀ taken. Phlib-
ostroma jun. only in
grass land. Mentob.
sp. jun. only, not scarce
in bare patches. Myot-
mma haydeni 1 male

♀ Dipodomys ingens adult, very scarce, 2 ♂♂ only seen + taken, ♀ not encountered. Mainly in rabbit runs. Melanoplus femur-rubrum 1 pair in mist deposition. Mel. sp. ♂ ♀ very scarce, widely distrib. 2 ♂, 3 ♀ taken. Oecanthus 1 ♀ caught from rabbit nest.

981 + 30 = 1011

1921. 17. Tucumcari, Quay County, New Mexico Aug. 14, 1921. (R.) Elev. 4194 feet.

Grass land with low rabbit brush, and in places with much sand-sage, and tumbleweed. Where

badly grazed almost nothing was found. Mus found ♂ and not eaten, not O. was abundant in individuals, some in species Stagmomantis jun. beaten from rabbit med. Diaphanura 2♂, 3♀ in tall weeds - Lycosa fibimentosa. Sycosa scarce, 3♂ 1♀ - some jun. Tahoe, in grassy meadows. Epeira rare, generally distrib. b. Agenoteltis in woodland veget., not common. Philodromus jun. only, common in closely cropped land, not in coarser vegetation Oxyopes pictus - 1♂ in heavily grazed land. Tropidolophus 1♂ in moderately well grazed

land, all seen. Sphagnum collar scarce along edge of corn field on low ground. Rim. inus. 1♀ in low road. Mestob. Rim rare in more open land. Mestob. capito type 1♂ only in moderately grazed land. Hlerot. 1♂ 1♀ on low ground.

Chistrega 1♂ in rich grass field, very strong flyer. Neapolitus sp. rare in grass, no ♂♂ seen, 4♀♀ taken. Camptoscantha mrax ♂-♀+ much more abundant just in rear in meadow along corn field, in muddy clumps in more open ground and in clumps of grass -

occas. mesquite - very
active - for a slightly
spines most cases.
Melampt. pachadi type
common in many rank
jungles, Mel. lahirii common
- well distributed in the
dense of. semiarid vegetation -
I much - singed me in tents.
Mel. glaucipes not rare
in. dense vegetation -
not in mesquite! Rather
scarce - ♂, ♀ taken.
Mel. cornu. subsp. ♂ in
heavy rank vegetation.
Mel. nitidiventris - like subsp.
to ♀, ♂ in heavy vegetation
Mel. differentialis in rank
succulent vegetation.
Dendrotettix quercus
general by distributed
- at low elevations.

Brachystola 1♀ feeding on sunflower. Pediodectes 1♀ jumping in heavy tangle of rank vegetation. Two large mantyids with one sunflower sitting on stems.

Same P.M.

In same general type of environment.

Diphuncra ♂♂ not uncommon on Yucca filamentosa and in grass. 1♀ also taken in Yucca. Paratylotes 1♀ beaten from grass. Pseudocoenia ♂♂, 1♀ beaten from grass 1♀ in yucca. Paropsimala 15 2♀ in grass. Agenestetrix as already noted. Dendrotettix hayleyi 4♀ along

round. Mestob. 4♀ ditto
Red-legged Dimerothrips
very scarce in short grassed
area. Sphagnum as in
Am. Hadrothrix 1♀ in
short grass area - all sum.
Nesperothrix very search
made for ♂♂, finally 3
taken - species in all sits
of situation, rabbit mud,
yucca, etc. Camp glacialis
four series taken, specimens
locally abundant,
preferring clumps of yucca,
tall weeds, etc. Mel. glaucipes
locally numerous - found
to like to hide between
yucca leaves, not in
mesquite. Mel. floridus
type abundant but
locally distributed,
preferring clumps of
vegetation. Mel. packardi
color type 1♀ only, in

grass. Mel. ryalis, type not common, in grass more than clumps. Andropogon 1% in grass land, more, not native.

1011 + 270 = 1281

1921. 18 Guymon, Texas Co., Oklahoma, Aug. 15, 1921, (R.) Elev. 3133 feet.

Gently rolling prairie plains, largely under cultivation. Work done in short-grass land and in areas of heavy weeds, tumble weed, thistle, etc., with corn flora and other native vegetation. Material abundant

in numbers, and comparatively to in species, but most desirable ones hard to locate. Stagmomantis ♂ jun. in meds. Syrbula admiralis not uncommon in the less dense weed stands - 1 all green ♂ taken! Mermiria maculipennis 1 ♂ taken in ditto, all sex. Orphulella like pratorum 1 ♂ in rank high grass. O. like speciosa 1 ♂ 1 ♀ in ditto. Opeia common, chiefly in short grass. Amphitornus coloradus in grass, 1 pair taken. Melanoplus in short grass, just running adults, latter scarce. Agenotettix not uncommon in bare spots.

Ambrana elliotti 1 ♂, 1 ♀
in grass land. Cadillina
cumulata & cave in short
grass, 2 ♀ taken. Asphia
pseudonietana & cave in
open short-grass country,
3 adults + 1 juv. taken.
Hippotion rigosum 1 ♀ only,
in ditto. Hlisosticha
car. in trees 1 ♂ only.
Hliss. ang. pennis 1
in short-grass country
also. Mistobrigma cuva
numbers in short grass
& also in more open wooded
spots. Hesperotettix viridis
occasionally in wooded
spots - 3 ♂ & ♀ taken.
Campylacantha olivacea
common in woods,
particularly in heavy
woods, many immature

Neoplectrus sanctus
common in marshy
muddy stands - ♂, ♀ seen
taken. Neoplus tum-
bulli type very local -
1 ♂ taken in muds, apparently
showing preference for
tumble-mud - unable to
locate a mate, 1 ♀
taken. Mel. differentialis
common in muddy
areas. Mel. irritatus
not common in damper
spots of many vegetation
Mel. labiatus common
and general except in
short-grass, where it was
rare - 1 ♂ ring-ringed &
taken. Mel. pachandi
not common in short
grass save in open
muddy areas.

Mel. crassipes type (?)
1 ♂ in grass. Mel.
fauna-urban type
in more open wooded areas.
Mel. sp. like nr. pachandi
in detto. Phaeteloites
sub. sp? in one patch
of heavy weeds about a
drain, but two adults
secured - but small
number of grass - cf more
rank weeds for more.
Eudactylotum 1 ♀ in open
woods. Eremophaeus
sp.c. 1 ♂ in many grass.
Rhecnus. 2 ♂♂ in
heavy grass + dense
weeds. Acanthus
vestus in fair numbers
from weeds + grasses.

128 + 177 = 1458

1921. 19. Same as
1921. 18 but Aug. 16,
1921. Same environment with addition of areas of shoulder-high grass.
Paraneilla in medium grass - ♂ ♀ taken, ♀ deep rose pink. Diapher. 2♂ 2♀ in hay meds.
Syrbula as yesterday.
Mermiria maculipennis uncommon in tall grass M. neomexicana relatively common in restricted area of high grass, ass. with M. mac. Opeia as yesterday. Amphitornis nine specimens taken. Cordillacris abundant in short grass. Agenaelatis ♂

and Andocara on grass.
but butterwort
numerous. Phlebotoma
always in short grass-
adults predominating.
Hdiss. Isoqip. on yesterday.
Androt. scarce in short
grass. Sph. aequale 1♀
in short grass - crepitans,
Drim. nd Leg. 18 only
on tea - in short grass.
Mel. biguttatus local in
long grass and mud.
Mel. pachadi in heavier
vegetation, common.
Mel. flavibasis scarce in
shorter grass. Mel. femo-
ratum + atlanis in
heavy woods. Mel.
nigellus type in tall
grass - scarce. Mel.
short. nigel. strongly

wicksmd, common in
patches of tumgrass
in the bottom of high
grass, very local & scarce
in result of long search-
ing 8, 2♀. Aeolopus 1♀ only
taken, in tumble weed.
Camptocantha very-
where except in short
grass. Phaeaticus
only in area of very
high grass & there local
& not common, mainly
adult. Arethaea ♂ ♀
jumping through "short"
grass. Pediodectes
2♀, one red brown in
color "one (brown) under
old trunk, other (red
brown) down at roots
of dry tall tumgrass

1458 + 189 = 1647

1921. 20. Dalhart, Co., Texas. Aug. 17, 1921. R.) Eles. 3987 feet. Mesh dense in areas of tall grass with a without tufts, mesh, fields of brown-eyed daisies, some sunflowers & bumble mesh & small areas of short grass. Diaphragm mesa common & found in most grassy spots. Parabuellia abundant in all situations exc. short grass. Stapeliantes grows only in mesh. Syphula is only in mesh. Mesembria nearly fairly numerous

in ditto. Merg. maculo
much scarce in ditto.
Lycia rare. Agenotettix
abundant & general.
Amphitornus local & not
common, in low but
not thick grass. Sphagemon
cristatum in fair numbers
in all cond. but tallest
grass. Hadrotettix not
common. Acrolophitus
1 in area & taken.
Tropidolophus 18 in
much grass spot. Paropo-
mala numerous in most
in all but thickest
grass. Dactylotum
local, not restricted
to special environment.
Hypochlora
very local & scarce -
not restricted to any

one plant - long search made for more D.T.

Camptolaemus not common, all adults taken. Dispeo. spinosus 1♀, without ovip, sole in div. area, Rhantaliotes larval, no adults seen after search made in same, in tallgrass + meds. Meldropius trittatus 1♀ in heavy meds. Mel. pachadi found + common. Other spec. of Mel. all in heavy or moderately heavy grass + meds. Scudderia 1♀ flying in meady area. Orthacha 1♀ taken from beach grass

Conocephalus striatus
all in heavy grass.
Cyclopteltum turpentinum
weeds - grasses. Acanthus
green, in various weeds.
Acanthus blue green
largely but not entirely
on plant from which
sample was taken. This
plant = Artemisia filifolia Torr.

1647 + 226 = 1873

1921. 21. Childress, Childress
Co., Texas Aug. 18, 1921.
(T.) Elev. 1878 feet.
Long search necessary
for uncultivated land.
Work done in old fields,
very small patches
of apparently unbroken
sod, along R.R. right

of way + drains. Aletris-
nera not rare in old
fields + virgin sod, but
adult rare + taken. Stapu-
mantis 2 juv. in old field.
Mermiria mac. uncommon
in tall grass. Syrbula admi
common anywhere. S.
acuticornis much more
uncommon, apparently
only in uncultivated or
virgin land - search made
for more but 4♂ + 1♀ all
seen. Opeia in fair numbers
in low open parts on
native sod. Agenceotettix
in old fields, not common.
Mecostoba sm. juvs. only,
in virgin land. Hippis-
cus compactus type
uncommon, but 3 seen,
2 taken, in old fields +

native conditions.
Dactylotenium 1 ♀ in
ditto. Aspect. inundis
1 ♀ in ditto. A. spicatum
1 ♀ ditto. A. paniculatum 1 ♀
along r.r. drain in
heavy grass + weeds.
Campylacantha nearly
everywhere, majority juv.
2 dor phases Fulvius
Melanoplus differentialis
chiefly in old fields. Mel.
bivittatus in heavy grass
M. packardi not common
but fem. destruct. Mel.
atlanis in both old fields
+ native prairie. Mel.
discolor (?) in grass &
short grass in apparently
native prairie 3 ♂ 4 ♀
taken. Mel. other species

in native prairie land.
Oecanthus latus
from various weeds +
grasses.
1873 + 86 = 1959

Same P.M. In similar type
of environment in another
direction, mine old fields
+ areas of high weeds.
Syrbula admir. abundant
as in Am. S. acuticornis
larval, search made for it.
3 ad. ♀♀ taken. Hippiscus
rugosus type in fair
numbers, strong flying
+ relatively shy. Trim
immaculata in dusty road.
Trim. red-legged ditto

1959 + 38 = 1997

17) 1997 (118
17
29
17
127
119

Channing, Mich. VII. 7. 1921

Orchelimum 1 ♂ mod nos in higher grasses of wet pasture.

Necost. gracilis mod comm in rich grasses of wet pasture

Also Cannula pallucida nimobius ♂ fasciatus and Circotettix verruculiatus sum the latter along road.

Skanee Mich.

mouth of Silver River

1 ♂ Podisma on hazel alder in open area of forest.

Falls of Slate River. 2 ♂ Podisma in foliage of hazel, thimbleberry etc on edge of forest bordering stream.

Pequaming VII. 11. 1921

Pasture along lake, in hazel thickets

2 M. dawsoni mod nos

1 Podisma rare

Xiphidium 1 ♂ on house screen

21·I·X

E Slope Sandia Mts N. M. VIII.

16. Said to be 7000 ft. Well Country Camp.

Gravelly slopes among junipero & pinon, scattered grasses & rabbit weed (Euc. 1, 1921) = Gutierrezia sarothrae (Pursh) ———)

1 D. carolina mod abdt.

2 Lepus very few

3 Truncorotx blue green wing 2 seen

4 Arctura occasional in rabbit weed.

5 Cordillacris few

6 Mel. aridus mod nos in rabbit weed

7 Hesperotettix few same

8 Acanthus few in weeds near springs

9 Syrbula 2 only - flew out of junipers 10 here one was stridulating loudly

10 Tursicria 1 on bare ground among grasses

" Tilanicetria 2 same

12 Derotmema few in adobe spot

13 Tettigid moist ground at spring

14 Trin cincta near dead twigs & log in juniper & pinons.

15 Stiaplura very scarce in open.

31 + 1997 = 2028

21.2-X Same. Zone of Pine, Fir & some Juniper & Pinon 8000 to 9000 ft.

* Tri Blue grass very generally distr but not numerous Pine forest.

16 Sphagnum very rare saline. H'35

Tri cincta widely scattered colonies in forest.

17 Corcor Jun in forest above 8500 ft. R'21

18 Vul. Fasciatus very rare in deadly undergrowth of forest. H'28

19 Cantlop one colony under boards of damp, decaying pine log (Bull Pine)

20 Xanthisma few scattered specs in openings of forest where grasses were more plentiful above 8500.

21 Xylorhiza very few same.

22 Wyethia albicaulis few in oak scrub patches, in forest

23 Parabaccharis dealbata from "Rabbit Weed" at 8000 ft.

47 + 2028 = 2075

21·3-X

Rim Rock Plateau, Sandia Mts, N. M. VIII. 16. 1921 10000 ft?

to 500 ft below summit.

Bald with a few scattered (Lodge pole?) Pines, large areas of very low (2-3 ft) oak scrub) and grasses which though much thicker than at their best lower down could not be what we call a true autumn meadow, the many wild flowers were there

Dry limestone pebbly soil with outcrops and boulder strewn slopes of blue-gray limestone.

Cerigt numerous on outcrops & boulder strewn slopes, a tan flare fragments though the only thing they agreed with in color was bare dead leaves from the scrub oaks. They were flitting and crashing constantly in the bright sunlight though it was cool. R1-21

Trine blue green wing 1¼ near (2¼ tip) scrub oaks at summit

24 Phil flabellifer common in open grassy areas at summit

Dinapteira very scarce here.

25 Cordillacris " " "

Xanthocerus few seen and down 1000 ft.

26 Trine prob T. mexicola. montecola ? 2 few seen

27 Camnula pellucida few

locally, dance.

Dorotus very few pio in adobe area on summit near grassland.

28 Colaptes abdominalis 1 just emerged in scrub oaks 2 ft high at summit.

Mel. albanis occasional in Tree at summit & below.

2075 + 62 = 2137

Auto 40 miles, burros 14 miles, dance music $20.; dance near 2 hrs every $6.; morning 3 hrs about 14 mi $7.

Frank Blaylock, Tijeras, N. M. about 24, T.B.

21·4-X Albuquerque N. M. VIII. 17·1921 River plain West of Rio Grande. 4943 7 emsiger

29 Micrococcyx cinereus? at night VIII·16. Locally, not numerous in marshy areas. Song a loud interrupted call usually

dee-dee-dee-dee-dee-

the insect was not alert and could be neared more easily than most species of the genus.

30 Cardellina singing both at night and in daytime — in deciduous but particularly in marshy areas of rushes (Cistidae ?)

31 Pseudoseisura 1♂ on Bear Grass (Dasylirion) at night, 16th. mesa E of Alb.

32 Eremophila gracilis 1 juv ♂ seen not taken, same plant & loc

33* Plagiostira 1♂ singing in top of mesa E of Albuquerque (Ed. 2 Chrysothamnus bigelovii (Rabbitbrush) The song is very weak for so large an insect, scarcely audible over 20 ft even with sharp hearing — sounds like the ticking of a watch though very much more rapid and kept up for long intervals though the singer was very disturbed at the slightest noise. Same place as was found on last trip.

34 Paroreomela l.w. in

sand grasses, sandy soil above W bank of Rio Grande there it is bare sand.

35 J. agrestis? (sand sp) one small colony there, a strong flier but not very alert.

Cordillacris 1 pale & there, others more on river plain.

36 J. rebellis gr 2 Les Paroj. Co and 1 on river plain.

37 Orphulella common in marshy areas of river plain

38 Dull Co mod comm in brush & weeds of river plain

39 Melanoplus one colony in area of various weeds there

40 Paroj. wyoming mod num in grasses of river plain and also on sand area W of town

Schistocerca 1 on river plain

41 Trim vitt only in waste land on river plain

Melegid 1 in marshy area on river plain.

42 Conoc fasc few in marshy areas there

43 Iris near mexicana 1♀
on river plain in somewhat
sandy area thickly dotted
with clumps of rabbit weed
and grasses.
44 Helaeas viridens 1♀ on bare
ground near wash of river
plain.
45 Pharagnora wyomingi? Very
few same as Iris near mexicana
46 Nestoleucia impex? Netted
after long survey of adobe
waste of river plain dotted
with clumps of grasses—
usually on borders of broad,
bare adobe areas, a powerful
flight but usually short,
alert but can be approached
readily if moderate caution
is used.
47 Pencil fauna

86 + 2137 = 2223

3650 A
21-5-X Amarillo, Tex VIII-18-1921
(H) Flat plain, grassy with areas of various composites and other low plants.
Mel palmeri common
Mel packardi very common partic in weedy areas
Mel gut-sub same
Mel labiums mod nos locally same.
Mel differentialis common in tall weeds along RR
Phoet nebrascensis 1 there
Hesp speciosus very fud same.
Hesp viridis fud in composites on plain, widely distributed however.
Campylac olio-vivax locally very common in various heavy weeds along RR, also in patches of (Euv 3 Grindelia aphanactis Rydb.).
Tropido formosus fud in areas of mod high prairie grasses & weeds along R.R. They fly very vigorously with a destructive

though not loud chirping but usually travels only a short distance, alighting sprawled out either on the top of a mass of weeds or on the ground. Followed up they are easily taken as they are clumsy in again taking flight.

Eyed Locusts

Are those grass about small bare spots between.

Open fields or plains in short grasses.

Camptolorhinus 1 sp.

Nisotes Rioura common sp.

Hippiscus rugosus very fine sp.

Mutator pardalinus 1 sp.

Acrolucella n. sp.

Phlibostroma fine sp.

Cordillacris n. sp.

Syrbula admirabilis locally very common in grassy near damp areas.

Dissosteira longipennis common wherever bare areas occurred

on plain.
D. carolina o Tabua dame
and on R R.
Iguirot latiuscula one
colony on almost bare ground
beside road.
Decantus large numbers
singing in heavy weeds along
R. R.
Neoc nob crepitans 2 there,
one was singing — a very
loud, resonant continuous
stridulation, continued
for a considerable time without
pause. Sw PM made
Orchelimum vulg? mod.
numbers same, partic
in grasses growing out
of water in ditch.
mel. bivittatus mod nos in
heavy weeds.
Conoc strictus 1 beaten same
* Noc nebrasc 1 d only one heard in
area of tall grass 6 ft high on prairie
at night — Noc r crepitans
general distr over prairie and making
so much noise at night that
it was difficult listening for other birds

Small buff moth – Hovering against breeze over weeds on prairie. These insects made a distinct stridulation – like the ticking of a loud watch but much faster and audible to good ears easily at 20 feet. I mistook this sound for the stridulation of a Dictyid and could only be certain after capturing several on the wing, when the sound instantly ceased – the little moths flew away noiselessly & with speed when alarmed.

Auto 25c per mile $3. per hour – waiting for me rate $1 per hour.

31
47
62
86
109
3)335
111

109 + 2223 = 2332

21·22 Happy Crossing, Palo Duro Canyon, Randall County, Texas 3200-3500 ft. VIII·19·1921 (R & A)

Canyon in plains, limestone bounding cliffs. Upper slopes low grasses w. scattered bear grass and a few short-lower slopes with sage, some mesquite, composites etc, areas of heavier grasses and near stream

trees with grape vines etc a few juniper scattered abound.

Arplia occasional on dry grassland of lower levels.

Schistocerca dark, common in vines & trees near stream

Schistocerca pale mod common in shrubs on upper slopes, wary and difficult to take in light wind.

Paratettix very few beside stream (H)

Pseudoserrugle (all R) beaten from grasses at upper level

Diapheromera (R) beaten from rich grass near trees.

Eulocara elliotti mod nos in open grassland & lower levels.

Phlebostroma common there

Apiea mod numbers same and in similar grasses in pinings among trees.

Agenoscelis Norma very common in open grassland at upper levels.

Eucopt costalis one small colony in grassland at lower level (H)

Lethyidea 1 juv (H) same loc

Syrbula admir common, pass in richer grass areas.

Spharagemon mod nos in bare spots at lower levels, partic in openings among trees.

Hippiscus rugosus generally distr, common.

Hippiscus corallipes juv in grassland bordering trees at lower level.

Dactylotum juv in areas of sparse grass above & below.

Mel. glaucipes mod abdt about low shrubs in grassland at upper levels only.

Mel pantherdis generally comm Mel smaller than but looks like Jedus juv in herbage along edge of trees at lower level (alt H)

Mel discolor (alt R) grassland at upper level

Mel. sabinus common in veget

under trees at lower level.
Nustobr Rioura common in grassland generally
Nustobr capito scarce in area of short scanty grass at lower level.
Trim vinc common on bare limestone outcrops.
Hadrotettix mod nos in grassland at upper levels
Trim hadrot-like fre sand, particularly about limestone outcrops & fragments.
Mel differentialis grassland fre.
Nustobr platlei very fre at upper levels in grassland near, very low shrubs.
Pseudodectes melaleucaeus, quite a few heard in very low shrubs along upper edge of break in prairie but so shy that only two, in tree ters concealing bear grass could be taken (ZH).
Pseudodectes Rhaeomorphi Hald very fre in meadow grasses, shrubs,

sage etc at low level
31 bordering trees.
Hesperet viridis common
in grassland at upper
levels
Hesperet speciosus mod
common in areas of taller
grass at lower levels.
Campylacantha common
same as Hesp viridis
Stagmomantis fed in
bear grass & low bushes at
upper levels.
Hierodula modesta common
in grasslands.
Concocephalus strictus mod
nos in heavier grass areas
Orchelimum calcaratum mod
common in trees and
shrubs near streams. The
males strid constantly
and are very alert and
extremely diff to approach
Ueg of was taken from
a twig about 5 ft from
the ground BB's 2 to 10 ft in
trees & shrubs.

2332 + 302 = 2634

21·23 Canadian, Tex. VIII·20·1921 (R+H)

1 Slope and limestone outcrop hills breaking down to river. Heavy cover of grasses, weeds, sage and clusters of grape bushes near summits.

2 Flat, similar but less heavy vegetation lower but above river level.

3 River plain, tall marsh grasses, reeds and clumps of low willows.

Dipterocera R. wellii beaten from grass 1.

Parabasillus R mixed vegetat 1.

Paraponera wfemg occasional partic in higher grasses, 1.

Pelibostroma A small colony in area of short grass

Apeira R same

Aquot dorum common & generally distributed, 1, 2.

Hippisus cordilip occasnl in adobe areas of least vegetation

Hipp rugosus. Fed in grasses & weeds 1.

Orphulella common in
Disticholis, 3.
Leptysma fw j R tall grass
in river bottom
Aulocara scant veget, 1.
Nestor Kiowa very scarce in
short grass area, 1.
Neoconocephalus maculiger common
in mixed veget, 122.
Scudderia alum R very few
1, 2 & 3
Neoconocephalus mexicanus same
as maculiger.
Spharagemon very common
wherever the smallest bare
sunny spots occurred.
Xibalia in low shrubs and green
weeds at upper level (1) but
particularly in bush-like
grape vines. Easily taken
by beating, a few seen resting
on upper leaves. (R5)
Scudderia H
Hesp viridis mod common
part in grassy areas 1
Hesp-speciosus scarce in
weedy spots, 1.

Acrolophus 83 Very frq in grassy woods & brush 1, local.

Pediod Waldeni H very comm in sage & other low bushes but very wary. The frq located secured but very many given a single short dive, on all sides, would hide before it was possible to locate them, ceasing their note use at a distance of a number of feet.

Pediod clemensi Jud same sex & taken.

Conoc stictus mod comm & widely distr 1 & 2.

Conoc fasciat occurs in grassy 3.

Hadrotett mod nos as Sphacy

*Arcdubiniana calcaris H mod large colony in low willow shoots in tall grass in bottom. 3

Arcdubinia constimana comm in tall grasses & reeds 3.

Campylac H frq in reeds 1.

Arctica R 1 in tall grass

Nel packardi mod nos & frq distr 1.

Mel. plavidus (next largest)
mod comm, more so than
packardi & gen distr 1
Mel. bowditchi (brill color
smaller) mod comm, partic
about sage. 1.
Mel glaucipes very fud. gen
distr 1.
Mel. packardi H fud in Mts
grass in bottom 3,
Mel fuscus sub H same 3
Mel bibillatus H common
locally, same 3.
Trim. vinc fud, bare spots
along road 1.
Trim citrina H, one on dusty
road near river. 1 only seen
Chortop viridefasc 2 H on bare
adobe near river, 2 only seen
Dactylot fud widely distr 1.
Hypochl alba 1 R in small
scattered group of white sage 1.
Acanthis - gray green indiv
very comm in sage.
Stagmom 1 H 1.
Passerculus 2 H in mixed weed
1.

Schistocerca vaga Scud 1
Proloecsa? 1 jH, 1.
Cycloptilum 2R beaten, 1.
* Oligoneuria 1 jR, beaten, 2.

2634 + 397 = 3031

21·24 Canadian, Tex. VIII·20·1921
(R&H) 700ft - 1000 ft above river
Butte limestone outcrops,
exceedingly steep slopes —
much grass + some low
plants. above base
on extremely steep slopes,
particularly in places
where ground was bare
in small areas * Circotettix
rugosus was mod.
numerous. Due to the
extremely difficult terrain
and the fact that there
were rattlesnakes in the low
elevations the series was
very hard to secure (RzH12)

The flight was a peculiar swaying from side to side, the individual giving an occasional sharp click. Though very alert, birds could be approached closely if great caution was used. The their point of alighting had to be closely noted as they blended absolutely with the bare earth of the butte.

3031 + 75 = 3106

21.24 Lubbock, Tex. VIII.21.1921 (R.H.)
3106 ft.

Plains of short dry grass, rather sparse, with areas of weedy growth in depressions and locally very abundant mesquite and bear grass. On border of beginning of canyons rolling slopes

with limestone outcrops.
Patches of heavier coarse
weeds in valley.

Sol packardi fair in weedy
areas & on plain.

Sol gamer-rub fair in old-
fld & weedy bottom-land

Sol palmeri very common
in weedy areas & on plain

Sol flabelliger small nos
in grass near limestone
outcrops on plain.

Sol balsimus common in
old fld weeds & bottom land

Sol dejoruttalis mod
numerous in weedy weeds

Sol floridus (large) & fair
in weedy areas

Sol floridus, smaller
similar area mod common
same.

Sol dissolor 1R in low
thorny tangle 1 ft high on grass
plain.

Proctabolus fair fair in weedy
areas

Hyp viridis locally common
in short grasses & composites
on plain.

Conyza locally common
in weedy areas & occas
in weedy dest over plain

Deroluma H on adobe soil
near by low weeds on
stream flat.
Mustobregma platti in
small nos among limestone
fragments lower short
grass slopes.
Mustobr Nowa small nos
in bare spots among short
& dry bad thick grasses along
road.
Prima pisc fair in waste places
Prima citrina IH same as Derol
Pseudosemiple MLR beating
low rabbit-weed & short grass
on plain, edge of shallow valley.
Parabacillus H in heavy weeds
Diaphoromera H same
Cycloptilum MLR same as Pseudosem
Murmuria + maculip common on
plain, partic in heavier
weed areas.
Murmuria + nuncia med comm
on plain
Anisocaua elliotti very few
~~as most~~ in grass near
limestone outcrops on plain MLH
Anisocaua punctata IH same
agamot + dorsum common

very scarce on plain.
Apera mod nos locally
in short grass on plain
Cordillacris 1R short grass
near road.
Pulsbostroma few ads, few
mod nos short grass areas
on plain.
Amphitornus very scarce same
Tetanoctrix 2R running on
ground on plain.
Spharagemon mod frequent &
widely distr over plain.
Hadrotettix same.
Syrbula admir few on plain
Syrb. acuticornis 1A very few
in heavy weeds & in short
grass on plain.
Dissost carolina 0 Taken, few
in waste places
Dissost longip mod numerous
over plain, partic in bare
spots.
Schistocerca 1A in heavy
weeds in old field & few
Pedodectes in low thorny
patches 1M 2 Jt Tiger on plain
Trimerotropis monticola type
or spharagemale 5 1A on
short grass plain

Yucca torreyi Yucca baccata yr loc
and scarce, grassland on
top of bench & on slope.
Hippisc rugosus occurs on
plain.
Hippisc corallipes 1H near
weeds on lower grassland
Orphia 1H same.
Acrolophites 1H on grass plain
Stagmomantis in heavy weeds
Oecanthus same.
Necrosc crepitans 1H same
as ~~Hippocratt~~ in weeds
near windmill, lower
level.

3106 + 270 = 3376

21·25 Clovis, N. M. VIII. 22. 1921 –
(R+H) 4218 ft.
Dry level plain of short grass,
occasional bear-grass and
areas of high but rather dry
grass. Weeds along R R
Dyar small colonies on
bare road across plain, sod
sandy loam.
Nestobregma Rowa near

wing elongate c. 7 thre, the
banded wing short c. 7 on nearly
plain of short Valley grass.
Mel Labiatus most common
in many weeds along R.R.
Dasost Longip frequent along
road & on bare spots on plain
Mel. decolor 2 only, H in patch
of higher grass on plain.
Mel palmeri occasional on
plain
Mel humeri-rufi occurs as
Labiatus
Mel difficultalis same
Cerphis very few on plain
Phlib corrugatus on plain
just in front ado frequent
Apis in very front nos
on plain, ads more numerous than
jinds.
Sphecida Ashmeadi occasional
in patches of heavier grass on
plain.
Mel corpulentus 1 H same 31/4
Mel nigelis 1 H on plain
Agast durus 1 ♂ on bare
ground under weeds along
R.R, more on short grass
plain.

Dropid formosus 5H In weedy
weeds & tall semi-dry grass
along RR - as usual always
plus up from small bare
spots in this area, with their
characteristic ticking
Trim veiw fud on RR ballast
Parabaeillus coloradus beetles
from weedier taller patches
of grass on plain. occasional
Dactylot on plain
Eumyplax vegeeva mod common
in ballast weeds along RR
& in weedier patches of
grass on plain.
Schistocerca H weeds along road
Nestobia plattii very few on
plain in area of beetles veg.
Hadrotett few on plain.
Paroxyonyx H in tall grasses
3376+164 = 3540

Oakland automobile 20¢ per mile
$1 per hour 50c ½ hr waiting -
went 22 miles.

Diapheromera occasional
over plain in bear grass
& weeds
Parabaeillus few on grasses
on grass covered dunes.

21-26 Camuo, Roosevelt County, N. M. VIII-22-1921 (R&H)

Sand dunes up to 30 ft high well covered w grasses

Diapheromera
Parabacillus } see last page

cordillacris 1H in dry high grasses along road in dunes

Hippiscus ju? on grassy plain between dunes.

Nemiria alacris Juv. among higher grasses on dunes

Nemus mosaic 1? R dame

Campy vivax very common particularly in green weeds in depressions between dunes, large proportion adult.

mel. flavidus common in areas of sand-spur (Cenchrus) and occurs elsewhere

mel. bowditchii occasional locally in areas of cenchrus

Mel discolor 1H in grasses on dunes.

Mel planipes nymph common in low brush (poison oak?) and occasional over dunes in weeds

Sal paccharde frequent
in grasses on dunes & in
intervening depressions.
Sal angustifolia mod
numbers similar general.
Salsola kali common dunes,
Dactylotenium in bruskes on dunes
Pseudop wyoming mod common
in tall grasses over dune area.
Sphaeralcea crist occasl
same
Sphaera equale 1H same
Aurelop virtipes 1 & 1H same
Uniola crepitans, very few
in heavy weeds in depr,
betw dunes.
* Plagiobothrys ok 1H 1R Beaten from
sagebrush in depression among
weeds between dunes. Tony
Marsh failed to reveal others
Pediocactus small numbers
there.
Antirrhinum gracilipes 5H in
flattery plants among
grasses in depression betw
dunes. cerita? miserum
** Antirrhinum large ap 1R same
Acaulthus yellow in clumps

of poison-oak like bushes, blue-grey in age

3540 + 197 = 3737

21.27 3557 ft. (town)

Roswell, N.M. VIII.23.1921 (R&A)

7 miles west, rolling country up to about 500 ft above town.

Short dry yellow grass scattered over limestone fragments & powdery soil, much short rabbit-weed, a few other plants & bushes including a very few Covillea.

Nel regalis [R30 39] locally in small numbers in short dry grass on flat.

Nel palmeri generally in very mod numbers.

Nel laevis in small nos in weedy areas on hills & flats

Canopy very common same on flats, mod nos on hills & generally same in rabbitweed

Phrynosoma cornutum 2 ♀ in mesa & grass on flats.

Crotalus Novus on bare areas

among grasses gen. deste.
Nustoba capita fid. same
but only on tops of hills.
**Lepus 5H scarce same -
wary but could be followed
up and secured by very
slow careful approach following
by the quickest possible runs
of the rest. Seldom flushed
more than 15 or 20 ft if not
unduly frightened.
Nonnot azteca 16H on bare
adobe on flat, only one very
alert with a sharp chirp
Bradypstola 1H among weeds on flat.
Xanthupus coralliper 3H frequent
among scattered weeds on
bare soil along road running
down to flat.
Anbocara fimorabun mod comm
were there in short dry grass.
Apeia same, 2 sps? the larger
taken down on plain.
Arphia pseudonit very fid
as Anbocara.
Pulvos troma same, fairly
frequent ads very scarce
Stauronotus 2 rumpere bare

ground, & beaten 2R.
Yersinia 1R on bare ground on hill.
Cycloptilum beaten in numbers from rabbit weed on hill.
Trimerotropis vinc very fw on small bare limestone fragments scattered spaces among short dry grasses, rabbit weed etc. on hill.
Trimerotr pruinosa strawa ~~praecava type~~ small numbers same.
Mel differentialis 1R only one seen in weeds in bottom
* Trimerotr melanopt group 3H on adobe flats among short dry grass on flat, fw. The central part is straw yellow color.
Trimerotr micropsis 1 & 1R same only one seen.
Habrotettix fw there and also on plain near weedy areas. note color resemblance of this & 2 spp of Trimerotr in same general environment
Spudosarmyle very scarce beaten from rabbit weed on hill 1 & 1R same.
Paraba villosa 1 & 1H same.
Amantitus 1R beating rabbitweed

3737 + 214 = 3951

Big 6 Buicks $2 per hr. running & waiting
40 mile trip 20c per mile, $1. per hr waiting
C. P. Dillard
116 N. Main St., Roswell
Trip to White Sands.

21.28 Melena, Chaves Co., N.M.
VIII.24.1921 (R&H)

Sand hills bordering Pecos River

T. texana one small colony on sand betw fringing clumps of low composites etc.

Campylorhynchus very scarce in mesquite there.

Alkali waste, scanty dry yellow grass in tufts about it.

Nestor texicolor colony on bare adobe, very shy and active, the females more alert than the males! all H

Trinia vinc very few and shy there.

Caliche & bare ground, scattered composites, ~~and~~ greasewood (bailea) and scanty yellow grasses.

Trimorpha ~~gracilenta~~ fr (doubtless the strong few on caliche.

Nestor capito occasional H on and on bare soil generally scarce.

Icterus glaucopes mod nos in mesquite

Acanthurus pipiratus R 28-29 Hollers
in mesquite, very low palates,
Tiers had to be trampled out
and flew with great agility
seeking to return to the nest;
much like Syrbula in action
but quicker. The females were
most difficult to secure as they
were more apt to hide, blending
wonderfully with the mesquite twigs.
Spharagemon 1♂ on weeds near
Pecos River, only one seen.
Paroponala vergata (stockieri)
generally distributed in small
numbers through dry weedy
yellow grasses.
Paroponala acries? (elongata)
scarce, scarce.
Diapheromera from mesquite
Parabacillus 1♀ beaten from
grasses
Pseudosarmyx 1♂ beaten from
rabbit weed and grasses
Cyclopteleum beaten from rabbit weed
Xanthippus 1♀ on caliche
Syrbula acuticornis 1♀ in mesquite
Schistocerca gregaria 1♂ fed in
mesquite near river.
Stagmomantis beaten from mesquite

Hyperod viridis fair in sc in rabbit weed
Campylae in mesquite, greasewood & rabbit weed scarce

3951 +148 = 4099

21·29 Roswell, N.M. VIII·24·1921 (R&H)

Bottom land near town. High grasses, weeds, mesquite &c.
Neil Calsimus very common
Apeira same
Parop wyoming R fair
Parop vergata R "
Schistocerca H very few
Syrbula common
Mustoregma R only
Cyclocara punctata R only
Pseudosirmyde R in rabbit weed & grass
Parabaellus H beaten
Neil differentialis H fair in heavy weeds.
Phoet neglascensis and common

4099 ±70 = 4169

21·30 Carlsbad, N. M. VIII·25·1921
(R & H) 3100 ft. town

Aeronautes maculipennis all H.
Small colonies in area not
over 50 ft in diameter, Surface
of low ridge, Rabbit brittle
bushes & low bunches of
plants & grasses. A sluggish
species, taken with ease but
very protectively colored.

Bombycilla planumea mod
numerous in black brush
on broad depression betw
low ridges. Sluggish and
much easier to take than
Sialia. A loud harsh
Prittt is the note, much
louder, harsher and more
high pitched than that of
Bombycilla. All would be
stridulating, then suddenly
all would cease and not
a sound heard for some
time. all H. (2R, later)

Mustoberyna townsendi ♀
One dusky but more
abundant on the lower
levels where the largest
occurred.

Triueroter large speckled
Jun on Kalisia ridges
Trim small bounded
mod nos on bare loam
near yucca in broad
depressions.
Trim large bounded
Dec bare ground with
limestone fragments,
very few but lists from
lower slopes to summit
of hills. Found nearly
Mestobr capito occasional
evergreen except on flats.
Tomomo T. azteca IH on limestone
stream wash
Holcast aridus 2 same.
Mul. bowdichii gr IH in
grass area of rabbit weed
& grasses in depression.
Appreciatella platys ? IJ & R on
hill slope in desert vegetation
of acacia, cat-claw, ocotillo, yucca
etc
mul aridus IH in heavy brush
along head of arroyo.
Murmex texana IR in cat-claw

head of arroyo on hillside.
Hel palmeri fre in weeds
and dry grasses in depression.
Campylac very fre same
Apeira locally in mod nos
in dry grasses there. fre more abd than ads.
Cordillacris 1H there.
Hel lasiurus R fre same
Stagmomantis in greenwood
and slash brush.
Pseudocercyle fre in rabbit
weed.
Parabacillus 1R beaten from
rabbit weed.
Agenot dorsum 1H from dry
grasses in depression.
Pilebostroma loc mod
numerous there, fre abd more
abd than ads.
Melanoplus rugosa H, very scarce
on alkaline flats lower slopes.
Tibautinia fre ocose, ads
very rare on bare ground
among plants.
Proloessa 1H from dry
grassy area at lower level
on hillside
Arphia 2R stony area with
scattered grass same.

Cnidoscolus 1/4 on garage floor in town.
Dichopetala brachystaba very scarce in rabbit weeds on lower slopes of hill.
Hesperotellix viridis R in rabbit weed.
Lepus very rare on caliche on slopes.
Bootettix comparatively scarce in greasewood (Covillea)
Systola admirabilis 1/4 in grasses in depression.

4169 + 207 = 4376

21.31
Avalon, Eddy Co., N.M. (R+H)
VIII.25.1921.
Trim texana sandy & adobe soil among desert plants and grasses, in small numbers
Trim ~~small~~ bipunctata same and on caliche, ~~in small~~ in moderate numbers
Trim vitr same scarce
Lepus 1/4 on caliche
Acanthoms all H driven out of mesquite. Extremely difficult to follow, ground, due to their armored habitat.

Mus near flavidus in
mesquite, grasses & weeds
in small numbers, prefers
the wider spots or slight
depressions.
Mus labarius in weeds
in damp spot.
Mus gracilipes 2♀ R ellers ht
occasional in mesquite but
much easier to drive out
than musculus.
Mus. great like palmeri ht
in mesquite
Mus palmeri ht among
grasses & weeds
Perognathus H 9 on adobe
in one small area. about
over all other places.
Bassariscus 1R in dist. bottom
bordering lake.
Orphulella 1H among
Eucoptolophus tricuspis 1H
on muddy shore between
area of dist. bottom & water
Paratettix in small bare
numbers on damp earth
near lake.

Campylacantha fair in mesquite & weeds.

Acrocara macilis 1♂ in adobe area of rabbitweed.

Mel fuscus nebrascensis fair in weeds near lake.

Syrbula fuscovittata ♀R others ♂ occasional in mesquite but in one waste where mesquite was injured and choked with various grasses they were plentiful. The males are extremely active and due to the armored nevernotum which they frequently are very difficult to capture. Ordinarily one of the most elusive of the southwestern grasshoppers.

Paropomala all ♂ in dry bunch grasses growing in wash, very scarce

4376 ± 175 = 4551

21.32 Pueblo, Colo. VIII.27.1921 (R.A.H.)

Mesa surface. "Prairie" of fair scanty grasses much low russian thistle and other weeds, scattered patches of Yucca filamentosa

Dendriocopus pubescens in small nos
in all bare adobe spots
Pipilo chlorurus Rivera very
few & local.
Pipilo fuscus plattei all R in
bare spots between grass
clumps.
Icteria virens. abund common
& few distributed.
Icteria longicauda, occasional
racine.
Geothlypis trichas occasional
in yucca and thistles
Passerella iliaca (townsendi?)
Melanoplus flavidus (bowlesi?)
mod common particularly
in and about clumps of yucca
Mel. arizonae Pattersi all H. few and
few. distr
Mel. angustipennis all H to race
Mel. packardi same as flavidus
Mel. consperses very few in
and about. patches of yucca
Trim. latericia one small
colony on bare adobe near
weedy area, not about, all H.
Trim. montícola 1 R 1 H all seen
Sylvan. aegualis 1 H

Spilanthes uliginosa common & gen distr.
Aquilegia formosa very common & gen. distr.
Delphinium glaucum mod common & gen distr.
Aulocara elliotti 1R only, 1H
Aulocara forcatum mod common & gen distr.
Amphitornus 1R
Cordillacris crenulata 1R 1H
Cordillacris occipitalis 1R
Opeia obscura 1H
Melanoplus mexicanus 1R
Bradyporta 1H resting in grass
Arphia pseudonietana 1?
Dissosteira longipennis 1H
Tropidolophus formosus 1H
Melanoplus (Ite Juncta sp) occurred in numbers Thistle but partic in grass where the sheep were resting during the middle of the afternoon. We just think these plants are sought not as food but for the protection they afford and the odors

when disturbed usually drop down, not necessary the more customary threatens & starts to escape and can be easily cornered in the recesses.

45.51 + 168 = 4719

21.33

Salida, Colo. 7050 feet, base level
VIII. 28. 1921 (R&H)

Juniper (very little) & pinon ridges with very little vegetation beneath -

Juniperus [illegible] there, local and not numerous 7500-8000 ft

Broad valleys between, open, mesa rabbit weed, rose grass and occasional patches of yucca on gravelly soil - There Sceloporus undulatus latticeps

seems little Spilogale (salmon meter amp. c.f.) few small colonies. Are active at nights, flying however usually for short distances with a sharp chattering 7200-7700 ft

Seems [illegible] rounded up mod

common over the area the white ground color (yes there (maybe a dk. (a/2) usually on bare gravel areas near [illegible] 7500-7700

Trisetum spicatum fwd and local very active 7500-7700 ft.
Circ. rabula few on boulder stream area in valley head at 7900 ft.
Dirotiumia mod abdt. Thurber soil was dusty.
Mel citerus occasional about plants in dry stream bed and on valley. 7500 to 7700 ft.
Mel alaus one on bare soil under pines at 8000 ft.
Erythea small numbers in weedy field 7100 ft, very scarce on valley up to 7600.
Mel flabelliger valley 7500-7900 very few
Cordillacris occ
Hesperia 3H occ
Hippiscus montanus 7900 IR in weedy meadow bordering pines at valley head.
Pilobostrinus few in short grass in open 7300-7700

Pul conspersus 1 R on valley
Quesiob platter occul scarce
7500 - 7800 ft.
Decaulescens 1 R 7700 ft beaten
from composites in valley
Pul bistort 1 R in weeds at
7100 ft.
Poisest carolinia few in deeply
spots 7100 - 7200 ft.

4719 + 219 = 4938

VIII. 28. 1927 Sawatche Range
21, 34 Summit Monarch Pass,
Colo. 11200 ft (road) to 11400 ft.
Timberline, decomposed
granite gravel, grasses
and many wild flowers
in places dumped spreading
conifers.
Pul. excelsus few scarce,
in a few spots in small
colonies in grasses. Very
much benumbed by cold
they would only be located
after the sun came out
but 2 being found before then
like the Polygoneaceae they
were dumpy, but more powerful

leapers, partic the rude
Komplocerus grew scarce
but common in a few
spots where grasses grew
rankest. The scraping on
the stridulating organs was
audible in insects making
efforts to escape.

4938 + 108 = 5046

21.35 mountain valley
Rush meadows VIII-28-1921
Monarda Pass 10000-11200 ft.
Mel K. angustata ? R
Mel declivis
Mel altitudinis occurred in
Rush grasses in meter all H
Mel fasciatus 1 & H among
dwarf huckleberry & other
plants on slope at 11100 ft.
Komplocerus occurred as altitude

5046 + 29 = 5075

21.36 below Garfield, Chaffee Co.,
Colo. VIII-29-1921 (R+H 8000-8500 ft.
Scattered bull pines, open
and some pinon
gravelly slopes & some
boulder areas. Some
grasses and rabbit weed
the predom vegetation.

Mel excelsus f. laxiger locally
mod frequent in open,
mainly dry deciduous
woods, as abt as adlus,
Mel attanis same occasional
Trim like sp. aequale fre
same at 8000 ft.
Agaricus decorus very fre
same
Lycoperdon rubicundum in mod
colonies in more rocky
spots.
Mel brunneus on very large
attanis, & runs of cauld.
Fine salmon 17 at Darfield
at 9500 ft in scanty vegetation
Inocybe asperospora
Amphitomus 3 only same as mel excelsus
21.37 below Darfield, same as 5075 + 76 = 5151
21.36 but about 8600 ft.
Bull pine forest and
similar open areas.
Trim cinctus fre in scanty
undergrowth under bull pines
Agaricus 11 in open among
short grass & small
rabbit-eaten

5151 + 12 = 5163

21.38 same as 21.34, but VIII.29
Nul altitudinum H acad
Nul fasciatus H a very
few on south slope in
short grasses at 11200 ft.

5163 + 95 = 5258

21.39 Monarda, Chaffee County,
Colo. 10000 to 10050 ft. VIII.29.1921
Nul fasciatus locally in
small nos in undergrowth
of aspen forest.
Nul altitudinum in
mod nos, ~~rare~~.
Corydalis very scarce in
open grassy areas, either
loamy or gravelly soil.
Camnula pellucida locally
very common in open areas
of short grass on gravelly soil.
Encoptilus rubula mod nos
in boulder strewn areas,
none seen or heard above
this elevation.

5258 +54 = 5312

21.40 same as 21.35 but VIII.29 and 10700 ft.

5312 +22 = 5334

21.41 Monarch Pass, South side, Gunnison Co. Colorado VIII.29.1921 (R&H)
10600 ft. Lush meadow surrounded by fir forest. Med. Jasc. rather numerous Trim. vern. dry bare soil at camping site 1H.

5334 + 23 = 5357

21.42. Gunnison, Colo. (R&H)
VIII.30.1921 7800 to 8200 ft.
Gently rounded hill, page brush with almost bare soil patches of short rather dry grass and some rabbit weed Circotettix rabula generally distributed in moderate nos particularly in stony areas Circotettix carlinianus Sw in sagebrush, Dissos. Nordic in open areas occurred 1R
with Stipa and bare soil
along road
Hippiscus montanus Sw along road partly sagebrush near bedy spots in sagebrush 1R

Trium montecola? in dry short grass & sage brush, fus 8000-8200. 2R

Trium virg very scarce along road.

Trium gracilis locally in small nos in sage ~~xxx~~ 1R

Orthocarpus tolmiei Nicoa in short grass areas 8000-8200, Nee pulchella type predominant, sprigs of white sage present.

Perotrichum parce in bare spots and three sage & along road in mod nos Thereover there grass bare adobe.

Mnl inparetalis very scarce in sage brush 1R?

Mnl flabelligor parce and in grass/short areas 18R

Orthia fus in areas of short grass.

Mnl bivittatus 17# on edge of irrigated land

Mnl alticeis 17# parce

Antocaras 1R 8000 in low sage.

5357 + 100 = 5457

21-4/3 Same VIII-31 — Elev. 7683 ft.

Plain, short grass, some sage and other plants
Very favorable in appearance but actually exceedingly poor.
Camnula pellucida 1 ft, only one seen, in short grass.
Mest. Kiowa same, mod numerous.
Cernia ? ad scattered over plain.
Acrypd ? v mod numerous in short grass bordering irrigated area.
Mel infantilis occurd in sage brush & short grass.
Mel atlanis 1 ft in sage brush

5457 + 46 = 5503

6 Birds - 2 mi out and go for us $2.50. 70 mile trip up to 12000 ft above Tinder $20. for day in machine - Mr. E. H. McDowell phone 147 W, Gunnison, Colo.

21.44 Cedar Creek, Montrose Co, Colo. IX,1,1921 (R&H) 6500-7000 ft.

Juniper & Piñon scattered over steep hillsides - surface with mucle sage and areas of bunch grass interspersed with a small stipa yucca.

Lepus 1 H in grass area on hillside 6900 ft. Only one seen

Iviin caerulespeyeis locally in small nos - on bare adobe spaces of flat up to bare areas among juniper & piñon at 7000 ft.

Iviin modesta? (small yellow leg) sp 21A very scarce on grass area of hillside at 6900 ft and mod common on weedy ridge (used in Eve 21.44A Atriplex powellii Wats.) at 6500 ft.

Iviin red leg 1R lower slope of hill.

Iviin gracilis few on sage and weedy adobe flat at 6733 ft.

Perotenuma few same

Neotoma albigula common there & few generally in sage

Mel tristis 1♂H only one seen in sage at foot of hill 6800 ft.

Mel eucerus 1♂H scarce.

Mel ylab breeds very scarce here.

Agenocotellus common on hillside & very active.

Hyperolellus 1♂ in rabbit weed on hillside up to 6850 ft.

Decanthus ♀ punct 1♂R in bottom land, Keating 6733 ft.

Cce deep green & bronzish in sage and small sp. yucca on hillside, appar mod numerous, all H.

Geologi chemop occasional on ridge on adobe soil thickly overgrown with low weed, sample 21-44A.

Amphitornus 1♂R 2♀H in grassy area on hillside 6900

Dissoster car common on waste land at 6500 ft.

5503 + 89 = 5592

Exc 25¢ per hr, $1 waiting per hr.
at 25 ¢ per 1/4 hr. Charge 8 to 11.30
$6.25

21.45 Montrose, Colo. IX-1-1921
(R&H) 6000 to 6200 ft.

Irrigated land

Nel differentialis Jun

Nel bivittatus very common

Nel atlanis wading in

Trim latic all H on bare adobe in adjacent weedy area at 6100 ft; one small colony

Trim caerulifrenis Jun on bare adobe wash among sage at 6200 ft.

Dendrocnus on adobe soil at 6100 ft. not common

Reithrod ~~rufesc~~ common in tall "rabbit weed" near irrig land at 6000 ft.

Nel flab breweri mod nos in weeds at base of lower slopes of valle land.

Aulacorn 1 H same

Neotom nicoa 1 RH same

Nel Jun-hub 1 R irrig land

Dipod ord very common

Acc minus all H mod nos in weedy & vines about hotel in town

5592 + 92 = 5684

21·46

1/ Allegheny Mine, San Juan Range, San Miguel Co. Colo. IX·2·1921. 9600 ft. (R+H).

Caucnuba pellucida 2 pw R in tall grasses.

Prospect mill.

2/ Sheridan, ~~Mine~~, ibid. ~~10400~~ 9900 ft.

Circotettix rnod numerous on bare rocks precipitous slopes 1R 1H.

3/ Tomboy, Marshall Basin, ibid. ~~12000~~ 11400 ft.

Slopes covered with heavy growth of rich lush Hudsonian zone plants, areas of fir.

Melanoplus borealis coloradi Very numerous particularly in heaviest and wettest flowers & grasses. Ads may very soft nuptial pro.

Mel. ~~elicitus~~ race 1b 1 7H 17R very few in less rich areas

4 ~~St. Sophia~~ Savage Basin Sophia Ridge
South slope at ~~12700~~ 12500 last
patches of green arctic-
alpine grasses.
Mel alt race. 1 & 2 juv, all H
the largest grasshoppers were
to be found.

5684 + 61 = 5745

21.47 ~~Marshall~~ Savage Basin above
Lowboy. ~~12200~~ 12000 to ~~12400~~ 12200 ft -
all above timber line
in arctic-alpine meadows
of a great variety of
wild flowers. Rocks
ridges and patches of
snow on all sides.
Mel. alt race few in
number and widely
distributed - the snow
on the ridges where
the plants grew
shortest and dryest
all ♂ exc 1 ♀.

5745 + 36 = 5781
3 horses and guide $10.
$2.50 per horse per day.

21.48 Telluride, Colo. (R&H)
8800 to 9000 ft. IX·3·1921

Anabrus not infrequent on open lower slopes in wild rose bushes, sage brush, grasses and other plants. The song is weak but rather high pitched. A continuous buzzing dzee-dzee-dzee-dzee which is kept up while the singer is perched on a plant but is clumbing about. Singing is even continued as they crawl over the ground. They are rather clumsy and when alarmed seek at once to hide down among the plant roots. They would be easily taken did they not constantly cease singing whenever approached, even the very cautious, was noted.

Carex pellucida mod
common in drier grassland
of valley & hillside.
Nil atlanis occurs here
mod common in open.
Nil fascicularis all th-
Eve small colony at 9000
ft under spruce & aspen
among low canadian forest
plants.
Cirsotettix rabula mod
comm thruout along,
in yard bare, areas
occurred.

5781 + 38 = 5819

21.49 Cushman Lake, San Miguel
Co. Colo. IX.3.1921 9700 ft.
1 meadow of high grass and
canadian zone plants
2 aspen forest with border
of low canadian zone
forest plants.
Anabrus sp. 1 fem very
green media in dorsum
Chortippus common 1.
Chloealtis abdominalis 1 ♂ ♀

in 1, fus 2 all H.

Nul. atlanis fus in 1.

Nul near brunei mod nos in 1.

Nul altitudinum fus 2 all sub 15 H.

Viciellei rabula 3H, fus on bare bank with fus roots beside road.

Cannula pellucida very common on dry ridges in meadows

5819 + 91 = 5910

21.50

A Trout Lake, San Miguel Co., Colo. IX.4.1921. 9700 ft.

Upper canadian meadow much beaudes of tall grass (H). Chlocaltis abdominis 17

Melanop cleverelli 101

B Dolores, Montezuma Co. Colo. IX.4.1921. 6957 ft.

Viciellei rabula 17 H on bare adobe

5910 + 3 = 5913

21.51 Mancos, Montezuma Co., Colo. IX.4.1921 - 7000-7200 ft.

Irrigated alfalfa fields

Juel bivitt common

Juel attains very "

Juel Jemur rubr same.

Accanthus in mod abdce R beating.

Piñon and juniper covered ridges, much bare soil but more tufts of grasses & composites than is usual in such environment.

Circot nebula very fw in bare spots.

Trim cuneata on bare soil up on ridges under piñons & junipers in the more shrubby areas.

Trim ~~occidentalis~~ montezumae? locally and numbers in bare spots where roots frequently were more plentiful. Lasyid tubes

Juel October Biowa generally over ridges and partic along the lower levels, occasional.

Juel October pear Platte? few locally along the lower levels in small bare spots.

Mel tristis very fine in composites, grasses and sage except in one spot where they were found in mod abundance.

Desperot coloradensis same bed in adj flat area overgrown with stray annuals composite (Enc 21-5A Bolbera papposa (Vent.) five were found in a short time.

Asplinia very few near irrigated area 1H.

Agwot dolorum mod numerous wherever there was ground cover on ridges.

Dipodomys ordii in large numbers in dry areas near irrigated fields.

Antrozous 2 only, 1R, 1H as agwot dolorum.

5913 + 125 = 6038

Same IX·5.

Trinn gracilis on adobe of flat area among sage brush few in number. 7200 ft.

Scudderia fur furcif 1R flew up into pinon 7150 ft.

Mel Eclous Jr log of low ridge, open space well supplied with low plants and grasses, juniper & pinon zone at 7300 ft. 16 17 H, 17 R

Cordill. acris in mod abundance in same spot only,

Oecanthus yellow spot mid of head. Appar mod numerous in low oaks scattered there junipers & pinons 7200 ft.

This locality 125 158 283

6038 + 158 = 6196

21.52 Farmington, San Juan Co., N.M. 5300 to 5500 ft. IX.6.1921

Tettus mod common on boulder strewn hillside with quite a little short green grass and various short plants 25 12 & H

Paroxyodda very scarce in scattered areas of Distichlis on river bottom.

Orphulella 2H same,

Aguaotettix very few as Tettus.

Cordillacris 1R same

Mel gray Lw & 1H same where

there were a few low delicate composites.

Mustela tricolor on flats, small numbers on bare adobe surrounded by short grass with scattered sage & "greasewood". 17 Oct 27 H

Dorcheuma pumpe and more widely distributed wherever there was bare adobe.

Conozoa acuminata most common on dry adobe with had previously been burned water - near river.

Tricrotr minc [illegible] same as Tyrus.

Tricrotr obscura most abundant on dry hill and lower slopes as Tyrus.

Aeloplus chinophilus ? ~~Oct~~ 17 R "dark" Oct 27 from "greasewood" on flat, others very scarce in areas of very small inch high perennial bunch grass on lowest slope of hillside

Mus tustis 26 H in sage & "greasewood" on river bank. Very scarce

Mus Sumichrasti mole rat in dead grass of river alkali flat

Mel bivittatus 1H dance
Mel packardi 1H "
~~Leptuletta~~
Irie modesta? yellow leg
1H flat at edge of river bed
above high bank.
Xanthippus 1 j H as M. tricolor
Psoloessa? 1 j H as Iyerus.

6196+195 = 6391

P.M. H with light in "greenwood?"
photograph taken and plant
sample kept. Plagiostira appar
in a scattered colony over
about ½ acre. Males up
in tops among leaves — dance
strid as at Albuquerque but
farther, could be heard at
not over 15 ft. All in plant
(Enw 21.52 A Sarcobatus vermiculatus (Hook.))
except one in sage brush, 4 ft.
climbing over topmost twigs
of leaflets, appar 21.52 A bushes
(photographed) 2 hrs work.

Same but IX.7.1921.

Nestor platti among rabbit weed on boulder strewn slope, lowest limit of junipers at 5600 ft.

Trim bicristata on sandy adobe flat thickly dotted with rabbit weed. scarce, 5300 ft. 1♂ R Others H

Trim agrestis type 1♂H 1♂R sandy soil among tumuli of rabbit weed and coarse grass. 1 other only seen, could not be made. 5300 ft.

Mel gravelsi a rabbit weed species, widely distributed. scarce. 5300 - 5600 ft.

Hesperotettix viridis 1♂H very scarce in rabbit weed as agrestis

Trim. alienus? Highest 5500 ft, very scarce above lowest slopes

Trim. laticincta 1♂H sandy adobe on rabbit weed flat sloping to a draw. Only one seen.

To these is added —

Hesp viridis 1♂H Aztec, San Juan County N.M. IX.6.1921 5500 ft. from rabbit weed.

Camnula pellucida 1♂H Marshall Pass, Sagauache Nts Colo VIII.30.10856 ft.

Chorthippus curtipennis 18 1 7 H
in coarse grass growing on adobe
Cima, La Plata Co., Colo. 8500
ft. IX·5·1921.

67 and 4 = 71

195
67
This locality 262

6391 + 71 = 6462

Eno 21·52 B "rabbit weed",
small bunches on sandy
adobe = Hutierrezia sarothrae (Pursh)

Eno 21·52 C "rabbit weed"
tall brushy masses in dry
beds of water courses etc
= Chrysothamnus pulcherrimus
A. Nels.

21·53. Animas, La Plata Co., Colo.
6500 ft. IX·8·1921

Gravelly slopes well supplied
with "tar weed" (Eno 21-51 B
), oak thickets, yellow
pine zone - lower limit.

Hesp coloradensis few in
widely scattered colonies
in "tar weed" 2 0 2 7 R, others H

Agenot abbr. leg. very
scarce here 1 R 2 H

Yersinia pestis 1 R 2 H

Parabacillus 2 R in sparse grass

Mestobr Nowa Jer as Hespero
Trim vinc 1H aacc
Trim cincta Jer about
oak patches
Cercotettix nabula Jer in
bare spots
Dissost car aacc.
Xanthippus jw - 1H Jw as Hyperd.

6462 +48 = 6510

21.54
Pinkerton Hot Springs, La Plata
Co, Colo., 6700 ft. IX.8.1921
Heavy forest of yellow pine,
dry soil with a sparse
undergrowth of larkspur,
grasses and other low plants
characteristic of this zone.
Mel atlanis frequent.
Trim ~~T. pseudata H.~~ T. plumosa-like med Jg
(San Francisco Mt sp IR?) in small
widely distributed colonies.
In flight easily confused with
T. cincta though the flight is
usually more direct, less
zig-zag and the clicking
slightly louder and more
continuous, nucta usually
silent except for a trill or two

flying up and alighting.
Trim. cuneata generally
distributed in small
numbers - as note on
flight under last species.
Crist rabula occasional
same.
Mustela Nivalis all H very scarce
in open areas where some
short grass grew.
Numobius 3H, in great
numbers in short moist
vegetation covering spring
overflow.
Nul pacsandi Jun in
weedy open.
Asplinia all H one colony
same Nul Jun-mud 1H in weeds in open
and added to this list -
1 Schistocerca shoshone from
weeds at Aztec, San Juan Co,
N. M. IX-7-1921, 5500 ft. (H)

6510 + 83 = 6593

21·55 Carbon Junction, La Plata Co. Colo. 6450 ft. IX·8·1921

Sage brush gentle slope thickly covered with coarse grasses, composites, sunflowers and other plants — ground boulder strewn. (Eno 21·55A = Aplopappus spinulosus (Pursh) H 13-1)

Trium red leg in open there in moderate numbers, Same actions as at Rulerton. all H. taken at dark spec on olive pile, pinkish purple on olive colored Trium. ~~Cercocarpus~~ H at Durango, Colo. 6500 ft. Alle seen and taken on bare stiff pulverized slate slope.

Mel Gum r mod nos in cultivated field

Mel atlanis ocnus and in place described above.

Mel cuiren near Gum in sage brush all H

Mel tristis 1 ♀ R ocnus.

Mel ~~vocalis~~ gladiator Gum in area near above and near Gum on low composite covered rocky slopes among junipers at 6650 ft.

Mel pacsarde ocnus as atlantis.

Dendroica on bare spots on level ground

Amphitornus in open in described area where there were more and finer grasses. Occasional, local.

Cordillacris 1R some.

Agenistettix abbr tegm generally in small mos over described area. Extremely active, alert & springing with prodigious leaps and very difficult to capture.

Cerpleia very few along edge of cultivation 1H. Localized locally.

Tetrix 1R on wet slopes loose stone with low composites among junipers at 6700. 21-55A

Paratettix hopping in described area 1♀R

Cannula 1H in cultivated field only one seen.

Aspidotettix colored with dorsal median stripe 1♂1♀H in composites in described area

6593 + 92 = 6685

Ford car 25¢ per mi, $1 per hr waiting or flat $2 per hr.

3½ hrs AM, 2½ hrs PM $12. Night
28 mi 6 mi for Ford

21·56 Chama, N.M. 7863-8000 ft.
IX·9·1921

Open yellow pine forest on flat country carpeted with short grasses and a variety of low plants.

Udeopsylla 4 R 19 H under damp chunks of decaying yellow pine - they make ~~burrows~~ living in the young ~~decaying~~ these mined beneath the wood quite as large as those in which the adults occur.

Trim suppurs Jun in bare areas, flew up with much the same clatter as acrocellatus, without as much whirring but quite as loud as true Cinctellus and of the same character, not a succession of clicks as in those Trimerotropis which make a noise flying

Trim cincta frequents small colonies, partic about decaying limbs of yellow pine.

Trim vinculata RIGHT Uteri well attacks in small

numbers there and ~~more~~ common in dense grasses and numerous low plants including composites etc on hillside open.

Mel excelsus type same and in same numbers

Mel dawsoni same etc very scarce on flat.

Mel bivittatus mod common on hillside & in cultivated area.

Eucoptol costalis same

Hesperotettix occasional in "naked weed" (Euw. 21.56A = Trimerotropis decumbens Dreng) on hillside, very rare on flat.

Chorthippus alli H in tall green grass and plants bordering stream.

Dissost carolina 1H fair in oat field.

Circotettix rabula 1R as Trim angustus

Clilocalt abdominus 1H in dense grass & plants of hillside bordering oak thicket.

Amphitorus on lower part of hill slope in dense grasses & plants 1R

Conoceph alus fasciatus R cultivated field.

Eritettix 1 juv R as Amphitorus

Xanthippus 1 juv H second undergr of pine forest

Orphulia 1 juv H same and 1 Cyclopt ilum pulled with clump from Farmington, N. M. 1 R

6685 + 151 = 6836

Chama IX. 10.

Trim neglectus 14♂ 21♀ H, 16♂ 17♀ R generally very scarce under of pine forest, few mod large colonies located.

Nestobrezgia Rocca all H, very few grasses & plants on flat near stream.

Dorotheina all H same.

Trim campestris montana 16♂ 12♀ R others H locally frequent in grasses & plants on boulder strewn flat and bank near river.

Hesperotettix 16♂ 27♀ R 16♂ 57♀ H

Xanthippus montanus 17 H as Nestobrezgia. 6836 + 94 = 6930

This loc. 151
94
245

21.57. Los Pinos, Conejos Co. Colo.
Cumbres & Range, San Juan Mts.
9625 to 10200 ft. IX.11.1921.

Micostelletes common in wide meadow valley & taller coarse grass. Use & was very difficult to find the grass had been grazed short. The rain were taken in the areas where some dried earth was exposed and there was considerable horse dung. 6 & R, other & H, 9625 ft. Festuca scabrella Torr.

Agaricus very abundant some and in almost equal numbers to pinnacle in open grassy areas - even in dry places where usually the gums would not occur, a few were to be found.

Melanoleuca cognata Fr
Everywhere in small numbers in abundant grass and mountain Meadows on slopes 9700 ft to 10200 ft. Very scarce in meadows at 9625 ft.

Cannula Jud scarce.

Cnabrius frequent in
same to summit 11200-
The greatest nos were on
the lower slopes covered
with small bushes. The
very summit. However,
exposed to the high and cold winds
males were strediulating
Arplica no very few on
slopes 9700 to 9900 ft.

6930+233 = 7163

21.58 Uff mountain,
Cumbres R. Range, San Juan
Mts. 10200 to summit ~~11200~~
10900
ft. IX.11.1921

Circotettix mod nos
along upper rim of sheer
precipice 10800 ~~11000~~ 10900 ft.,
1 specimen taken (mod beyd)
bare patches on slope 10200
ft. Below at foot of
precipice are boulders,
mass others could be
heard.

7163+175 = 7338

21·59 Alamosa, Colo. 7546 ft.
IX·12·1921.

adobe plain, sandy in places covered with (plant 21.52A Atriplex canescens? a brushy rabbit weed, a low rabbit-weed and scattered grasses & other plants.

Irisa latica just public near adobe wash areas on bare ground. Very shy partic. F.S 1,2 R others H Chrysothamnus plattensis Greene

Irisa gracilis occasional over plain.

Irisa nana very few on plain near town.

Irisa nubrigena? Only in sandy-adobe area where scattered short grasses grow. Alert but not so difficult to capture as it flew usually short distances. Coloration so similar to Sphaeragemon found there that individ were almost indistinguishable until taken, though the Sphaeragemon is usually by no means as wary.

Sphaeragemon common very where over plain except on adobe wash areas.

Perotinus fuv on plain.
Mel inermis very common over plain appar partial to the rabbit weeds.
Mel ludovic? 18'H as Trim rubripes only one seen
Mel fumus-suborus very fuv on plain, common in waste areas near town.
Mel. bicellatus occasional in waste areas near town.
Hesperol gilletti not common in rabbit weed but widely distributed.
Anoplus turnbulli 18'27H only ones seen, taken from triplex canescens (?) in adobe wash.
Dirost car fuv in waste places on edge of town.
Cordillaris occasional very there among weed grasses on plain.
Encoptolophus fuv in grass on border of stream in adobe soil adults.
Tettigids mod nos Hyla.
Mecos saxatilis 1R dance
Chortophaga occasional dance
Conocephalus fasciatus 2R dance

Arpha occasional in short grass of adobe flat near stream. Clattered quite loudly.

PM
Mel palmeri (?) [Hadrotarsi?] fair in waste area, largely of russian thistle
1817 R

Anolopl turnbulli 1H same.

Nestor Notab occasional in stubble field near river.

Eucoptologlus common there and in short grass along river.

Swing Blanca trip. Route asking Ed Dow, Blanca, Colo.

7338 + 302 = 7640

21.60 Baxter, Pueblo Co. Colo.
IX-13-1921. 4624 ft.

along R R on plain of the Arkansas River. Areas of high dry grass sloping to dry arroyos with patches of coarse grass near lowest points. Other vegetation surrounding area mostly low russian thistle, occasional rabbit weed etc.

Mel Lakiuus common in

russian thistle.
Dendraena corymbosa
very there on bare adobe
Dactylotenium occasional
Trim latic common, in
frequent colonies on bare
adobe waste patches.
Sphaeraq equale scarce,
in few numbers
Mel regalis very few.
Mel Junr-nubr common
in grassy areas
Disp viridis very scarce
Mel. parlandi common
in grassy areas
Circ T. carlinianus 1 pl on
small bare adobe waste spot
along R.R.
Hedrotettix occasional,
Melanoplus & plagosus few
in russian thistle.
Aphis mod nos in dry
grass and about such areas
Tropidolophus formosus common
some, the males usually
on edges of long short russian
thistle & bare ground R 951/ Folkers N
Boo[illegible] 2 mod common

in dry grasses, & so scarce and usually in or near the heavy pukelles of grass R52 37 & others H.

Arabulimima 16 H. Feed in latter, stridulating the most loudly and so wary that they could not be located.

Agenor dorsum mod comm Eulocara occasional

Disiost longipennis mod common in bare pukelles near grass areas.

Nemuria maculipes mod comm in grasses.

7640 + 211 = 7851

21-61 Baculite Mesa, Pueblo Co., Colo. 5000-5200 ft. IX.13, 1921

Pebbly or adobe slopes and draws, areas of scant dry grass, areas of russian thistle, areas of yucca, rabbit-weed and a variety of plants.

Bouteloua and nos 2 & 3 in scant grass.

Tropidoloptus scarce.

Lepus fus on pebbly ridges in areas of yucca, rabbit-weed etc. 2 ♂ ♂ others R

Pediodectes rare in russian thistle.

Neoniria neonei very few in grass of upper slope 1 ♂.

Heliaula rufa 1 ♂ on Lepus

Trimerotropis ♂ adult allotype ♀ paratype 3 there.

Nistobr capito occurs in scant grass & desert weed areas.

Nistobr Nevada 1 R

Mel plautipes and no

in and about bushes
along edge of summit
Apia very few
Phlebostroma some
Dactylotum "

7851 + 93 = 7944

1 mel Jeaberi
2 Jeabardi
3 Jeaver - mel
4 Labieno
5 diffrentalis
6 Flavidus
7 Soudetti
8 discolor
9 glaucipes
10 Guittatus
11 Jabelliger
12 negatus
13 confluentes
14 augustifasciatus
15 Jeaudetus
16 atlanus
17 Hesperotettix viridis
18 " Jeatianus
19 " coloradus
20 " speciosus
21 Camnula mexax
22 Hypochlora alba
23 Nocticolus rubrapenis
24 Melanoplus arcticus

1921 Trip

Locality		species			specimens	over 2 per D
Syracuse Ks	R	32	1/2		201	804
Raton Pass NM	"	13	3 hr.		62	248
Clifton House	"	24	3 hr.	1/2	146	344
Raton	"	9	1 hr.		36	
Johnson Mesa	"	10	2 hr	1/2	68	270
Chicorica Cr.	"	18	1 hr		67	
Wagon Mound	"	22	1/2		75	300
Albuquerque	"	30	1 1/2		228	304
Holbrook, Ariz.	"	10	1		29	58
Gallup, N.M.	"	4	1/2		10	40
Vaughn	"	11	1/2		30	120
Tucumcari	"	33	1		270	540
Guymon Okla	"	45	1		366	732
Dalhart, Tex	"	29	1/2		226	904
Childress	"	24	1		124	248
Sandia Mts. N.M.	H	28	1		140	280
Albuquerque	"	20	1/2 x running		86	344
Amarillo Tex.	"	29	1/2		109	436
Palo Duro	" R&H 3 5	38	1/2		302	604
Canadian	" 10 12	50	1		472	472
Lubbock	" 5 12	48	1/2		270	540
Clovis NM	0 6	22	1/2		164	328
Cameo	" 2 5	25	1/2		197	394
Roswell	" 6/7 5/6	~~27~~ 31	1/2 x 1 hr		~~214~~ 284	568
Melena	" 4 3	21	1/2		148	296
Carlsbad	"	46	1		382	382
Pueblo Colo.		29	1/2		168	336
Salida	"	18	1/2		219	438
Monarch Pass Trip		15	1 1/2		343	229 ~~229~~ 146
Gunnison Colo.	"	17	1		146	~~146~~ 292

Locality	Species	Specimens	Aver. for 2 per Day
Montrose Colo.	24	181 ½	362
Tomboy "	4	97 : 97	~~194~~
Telluride "	9	129 : 129	~~258~~
Mancos "	20	283 :	283
Farmington NM	26	262 :	262
Durango, Colo.	28	203 :	203
Chama NM	23	245 :	245
Los Pinos Colo.	7	408 :	408
Alamosa, Colo.	21	302 :	302

Camp provisions for 2 | 6
men for 6 days.

3 lbs. bacon
2 small jars jam
3 loaves of bread
1 lb. oleomargarine
½ lb. coffee
5 baby tins milk
1 lb. sugar
2 cans peas
2 " pineapple

---

salt
1 doz. eggs

1922

1923 (Rebus)

1924

1922 Peg's birthday IX·6; C.B. IX·14

J22-1 VII·5·1922 ~~Teton C.O.~~ Minors Ferry

Jackson's Hole, Wyo. 6500 ft.

1 Mel oregonensis ads mod
nos in lush grasses and
mountain plants in thicket
of aspen & pine in
valley.

2 Mel. inguilles occasional
in sage brush areas &
some in the above.

3 Decticid pros occurs.
as 1.

4 Xanthippus obscurus
occasional on bare ground
to scanty grass & sage
brush.

5 Arphia underground
in mesic forest of
foothills + 200 ft.

35 + 0 = 35

J22·2 The same

VII·6 Orphia very sue all colony in aspen thicket.

7 Trimerotropis suffusca gr Very scarce on edge of same.

J22·3
VII·9-12

In coarse marsh grass of bog -

6 Anabrus 1 juv. only seen & taken

Stiroxys juv common here & in alfalfa

8 Mel. mexicanus common in alfalfa, adults just appearing.

9 Camnula pellucida same.

10 Acrydium 2 only on bluff, probably bog soil.

J22·3 VII·12 the same

11 Arcyloperates carbonarius juv, just out, mature, also boulder dry ditch in field

35 + 70 = 105

J22-4 The same VII.13

12 Xanthippus pardal ? ♂

in grassy area of sage-brush flat at foot of hills 6800 ft. 1 other only seen.

13 Circotettix rabula Rud ibid. Apparently very local here.

J22.4 ~~Crater~~ String Lake, Jackson's Hole, Wyo. VII.16.

Acrydium mod. nos. locally on wet peaty soil bordering lake.

Alters in semi-mountain meadow sage-brush flat. 105 + 30 = 135

J22.5 Same as J22.1 but VII.17 to 22

Cricot. rubula 1 or rarely the only one I have seen here.

Trim. aeruginosus group appar. pist and ad. in all numbers — not common but widely distr. in open and in open rapid thickets.

Arach. carbonarius

Two small colonies only on rarely in open areas of small boulders.

Trim. minc 1st - only one - in open sage brush flat

135 + 90± = 225

As J22.4 found on Acacia flat - The top layer J22.4 is, however, Chain Lake with no Xanthium seedlings or Ceratotettix nebula.

J22.6 sage brush flat at foot of mts .6600 ft. Same as J22.4 (1st, mod 2&) VII.25

C. nebula occasional in pebbly areas - Males now at their best, females beginning to appear.

T. compressus mod common everywhere in sage brush.

Anabrus purpurascens & juv but v. widely distr, attributing in sage brush. Very alert, easily rouse at some distance no matter how carefully approached - but climbs and easy to take once located. 225 + 31 = 256

J22.7 Manor's Ferry VIII.1

1. confusus now at peals, mod. numerous everywhere in open - females smaller but not as much as males the latter on wet sunny days going through the same chattering aerial antics as C. verreauxi.

2. carbonarius fair now everywhere in pebbly spots in open.

C. rubula very local and scarce in valley-side beds of rough brush (Coll. on partic stony areas.

14 Vol. olivaceus fair adult now in long grasses and flowering plants in open & conifer thickets

256 + 50 = 300

J22·8 Sheep Mtn. Bros Ventre Range, Wyo. 7200 ft. VIII·4·1922 Open short-grass valley on pebbly ridge C. rabula' In valley M. infaustites², M. alpinus°, C. confusus'

300+4 = 304

J22·9 Same 8000 ft. Thick but dry short grass valley bounded by heavy Canadian Zone forest. Xanthippus few in grass C. pellucida common & Platybothrus the more common, same M. alpinus rare abundant same

304+42 = 346

J22·10 Same 9500 ft ridges of grass and innumerable weed flowers below timber line - Juniper low stunted clumps of spruce - Hudsonian Zone.

C. rabula colony in rocks
slabs on peaks of ridge. 9500
not plentiful 17 only
in extensive short grass
ridge.

Xanthippus just in
pockets of turfy Hudsonian
zone patches of Flowers
Platybotterus as rabula
but not above 9000 ft.
and decidedly scarce there

not olpium same as
platybotterus

not aregonensis in
large indiv same, this
sp also occ large at
8000 ft on edge of forest
and more rapid at that
elev.

Cuttle 1 d 17 in, decayed
log of spruce at 9500,
many logs examined
but only 3 seen

346 + 24 = 370

J22.11 Same 10000 to 10500 ft. arctic-alpine — Very gentle & extensive slope of short grasses & arctic-alpine plants.

Anaberis frq heard at all elev. on mountains, 1 frq. at 10200 in small patches of heavier, taller grasses.

M. oregonensis mod numerous but local as high as 10200, a very few up to 10500, above this no Orthoptera heard.

370 + 25 = 395

J22.12 Death Canyon, Teton Range. 8600 ft VIII. 7. 1922

Mountain meadow & rocky grasses and plants.

M. oregonensis very few ♂ only.

Steiroxys 2 frq.

395 + 8 = 403

J22·13 Peak north of Death Canyon, Teton Mts. Wyo.
VIII·8·1922 10000 ft.
mountain meadow
Camunula 1 only in grass
I. vinculata 1 in rock slide near snow banks
W. oregonensis not uncommon in subalpine verbage.

403+17 = 420

J22·14 Same arctic alpine
10800-11300 ft.
W. oregonensis fair in most arctic-alpine grass & plants among rock fragments
Xanthiopsis 10² same
C. rabula fair weed in rock slides up to 10000 ft; 1 1/2 below at 8500 ft; same for the 10² I. suppose which does not go higher

420+13 = 433

J22.15 Same as J22.3 but VIII.11.

Stiroxys ads & common, roller
& scarce on bare ground amid scant herbage on edge of mile grass bog in woods the pos used to be very numerous

Chord common in rich grass of bog.

mel. bisitt fw some mel brunneri? / Hers mel mex alb common to stiroxys

433 + 21 = 454

J22.16 Snake River above Jackson Lake, Jackson's Hole Wyo VIII.12, 1922 6950 ft. (Knowlton)

2 Chortophyrus, 1 Platybdella grasses & shrub plants on dry soil.

above Jackson Lake ~~at 6 00 ft~~

1 M. brunneri flew in motor

J22.16A Lupis River Y N P. 7800 ft
M. fascialis 1♂ 1♀ Wyo.
VIII.12.1922
small red huckleberry (Hebard)
bushes in heavy conifer
forest 454 + 6 = 460

J22.17 Yellowstone Canyon
at N P Wyo VIII.12 7900 ft. 43
"mountain meadow herbage
very rich in bottom of
valleys, more scant &
much dry on slopes.
M. monticola very
common in lush herbage,
more taken in less rich
ones. dark & less green.
M. breweri mod common

460 + 43 = 503

17A
Same number 1st Canyon right corner
Dragons mouth Spring Y N P
Wyo. VIII.12 1922 7600 ft. (Hebard)
M monticola 1♂ lush moist
meadow.
C. curtipennis 1♂ same
Trim modesta 1♂ on spring formation

503 + 3 = 506

J22.17 continued. Mt. Washburn
Y.N.P. Wyo. 10000 ft. Summit
above timber line - Short
arctic alpine grasses & plants
Zonotrichia very fed
Jun. asperus ? local and
in moderate numbers —
springing vigorously, Thayeria
nest in chasing about,
and seeking to escape -

506 + 22 = 528

J22.18 Crescent Hill, Y N P Wyo
VIII.13. 7300 ft. Rolling open
dry country with much
grass and some sage
Cnaberus 2
Trium montivaga 1 on bare
patches of hillside
C. curtipennis fed
Jun. oreganus occasional
Jun. alpinus mod numerous
Platyboltrus brunneus small -
Trium minimulata fed
Zonotrichia leucophrys fed
Jun. hyemalis pierce -
Also Mt Washburn Y N P
Wyo 9300 ft. Scarce resd. in VIII.13
border of conifer forest 1 C. rubida
2 Jun. hyemalis

528 + 33 = 561

Juse on steep southe slope
J22.19 NE Washburn Y N P
Wyo VIII.13. 9300 ft. Grassy
N. north slope (Hebard
~~C. curtipennis~~ P. elevatus
Jew.
mel alpinus 1 ♀ scarce
mel oregonensis 38 ♀ mod comm
Stictoxo 1 jun
Butte at Roosevelt Camp,
6500 ft. 1 butte verandyed
6 + 561 = 567
19A
Norris Geyser Basin Y N P Wyo.
VIII.14 7450 ft.
An geyser formation and
among coarse grasses growing
on it
M. altaicus very scarce.
Jnius ~~modesta~~ 10 mod nos 1 incudelid
567 + 11 = 578
J22.20 7200 ft.
Lower Geyser Basin VIII.14
J. ~~modesta~~ same as above
J. occipitalis Few in undergr.
of dry pot-tail pine woods
M. altaicus Jew as modesta
4 collected
578 + 34 = 612

J22.21 Upper Geyser Basin, Y N P
Wyo. VIII.14.

Diss. carolina 17 rocky or black & gravy sandy wetter scarce grass & very short age brush.

Trien blue leg. gen distributed and locally quite common same

Trien modesta very few same near geyser formations.

Mel. alleni occasional same

612 ± 50 = 662

J22.22
Camp Cowen, Firehole River
Y. N. P. Wyo 7100 ft. VIII.15
rich meadow grasses

Mel. monticola modocs.
They have a peculiar habit of resting motionless down near the ground in the grass after having leaped about several times & may then be picked up with the fingers

Stenroid very scarce just there

T. nuttalli few on bare ground among pines

662 + 16 = 678

J22.23 Madison River Yu P
Wyo. 6800 ft. Cut gravel
bank.

J. cyanipes mod. abo.
C. nabula occasional
J. sayanus occurs in
undergr of pine woods

678+6 = 684

J22.24 West Yellowstone,
Montana 6650 ft VIII.15
Flat country, dense lodge
pole pine forest, gravelly
soil & sandy grasses
and very small rare
brush growing but a
few inches high.

Mel nigrinella common
in open spaces

Vul. alpinus occasional
locally abund.

Mu parvardi occasional
general abund

Mu bruneri Yes several
parties one edge of forest

M. mex altaycus rare

M occasionis very few

in prest border
and mountains just in
openings of forest where
the road was partic
reported. Just.
Arplia all seen taken,
in open spaces
Xanthippe common sp. mod
common same Crotyzides
Xanthippus rare sp.
all seen taken, same.
Baltybolti brunnea very
rare same
Chl abdominalis 26 only
in tufts on short grass same
Cnemi pellucida common
same.
Steiroi. Yellowish 3 only,
very active, same
Trine fulva ceaos in
prest.
Trine cyaneipes common
& quite distributed. (smaller)
Trine nearcyaneip same
after the Yellowstone
proper, not partic. after
Jackson's Hole, the no 81.
incidio & sps named as observing
684 + 85 = 769

1922

1922.1. Halfway betw. Granite Canyon and Otto, ~~Albany~~ Laramie Co., Wyoming. Elevation, 7100 feet. August 7, 1922. (R.)

On high rolling plains, dropping down into swale-like depressions between the swells of the slopes. Soil moderately fine earthy red Sherman granite. Plant cover little grayed-grass, some thistle and sunflower.

Amphitorneo - scarce, all sex taken. Agonotettix ditto

Phlibostroma ♂ taken, all sex.

Hippiscus corallipes type - 1 medium ♀ all sex (taken). Mestobregma kiowa - common, no grouping individuals. Trim. mantinola - abundant, make distinct migrations in flight. Trim. brunneri type - numerous, quite protectively colored. Red-legged Trim. fasciatum type - not common. Spharagemon crist atum - single ♀ sex ? taken.

Melan. coccinaipes - not common. Mel. atlanis - type. numerous.

M. pacificus - numerous, rare strongly contrasted in coloration. M. infantilis - numerous. M. trivittatus 1 ♀ (taken). M. Eskimo 1 ♀ taken, no ♂♂ seen. Anabrus 3 ♀, 2 brown & 1 green, hopping in taller grass, all taken, no ♂♂ seen even after diligent search.

91 -

1922. 2 Crow Creek Hill, Laramie Mts., Albany Co., Wyoming. Elev. 8800 - 8877 feet. Aug. 8, 1922. (R.) At summit of Lincoln Highway crossing of Laramie Range. Summits of ridges and along ledges with clumps and groves of pine - not yellow, a low, stout needled species with cones about 3 inches long. Scattered aspen thickets, more in ravines. Sage has possession of most of the open ground, which also shows much bare slopes and beds of red sandstone. Grass scattered.

Amphitornus - not common in sage + grass. Platythorus numerous in ditto. Chloealtis abdo. extremely rare - recorded but 1 nearly adult ♀, in among pines. Orphulella 1 taken, all sum, in grass.

Gryphoscirtus numerous in grass and sage. Hippiscus - a single ♂ on thin trail in rock (taken). Cirrh. rabula - numerous in burnt spots and in rock surface - active and stridulating.

Chlo. suffusus - numerous in among the scattered pines in semi-park like country. Mestob. humilis 1 only sum + taken, in grass + sage. Aphanogenus - several sum + taken in ditto. Mel. foedus type - a single ♂ sum + taken in grass. Mel. infantilis type numerous. Mel. atlanis type, scarce. Mel. altitudinum, but 3 sum, 1 ♂, 1 ♀ taken, in sage + among pine, in former twice. prob. by accident. Steiroxys 1 ♀, all sum, taken, in grass.

1 jar Cenchrophilus under stone.

73 + 91 = 164

1922.3. Laramie, Albany Co., Wyoming. Elev. 7250 feet. Aug. 8, 1922. (R.)
In rather closely grazed rolling plains on edge of "Big Hollow." Dium. montivaga one (taken). Dium. f. paucilara type, two, both taken. Mel. infantilis type, several, taken. One Amphicerus.
In section of rabbit weed, thistle and some sun wild alfalfa, with alkali patches, a little salt bush and one scaly section of tall grass. Chortippus communis in last mentioned section. Camnula a few on edge of tall grass. Arphia pseud. one in bare ground. Mel. femur-rubrum in grassier spots, the single decided plumbeus type with Chortippus. Hyp. pratensis - but 2 seen in more open area, both taken.

39 + 164 = 203

1922.4 Medicine Bow, Carbon Co., Wyoming. Elevation, 6570-6600 feet. Aug. 9, 1922. (R.)

Low rolling plains surface S. E. - E. slope, some rather closely grazed, other sections with heavy stands of black sage, another sage and apparently an Atriplex, with much yellow flowered composite (rabbit weed) in areas. Slopes and tops of some ridges bare, pitted with pebbles imbedded in the silt-like surface material. Between some wells was much short grass, of a salt grass type. The latter area produced nothing distinctive, there was nothing in the rabbit weed and in the sage areas little but S. gracilis - Sinculata Cordillarie same as the more purely silt open areas. Philibertina common in areas of grass on slope, occasionally creeping up on the bare sections - Atriplex pseudocistosa - one area and taken in sage area. Hippiurus nyctaginiflorus - uncommon, chiefly in sage - Atriplex stands. Mentzelia tricuspis not common, in sparsely grassed, also bare areas. Agrostemma common on bare areas, particularly those of more pure silt, but also occurring on the pebbly sections.

Drim. vinculata common and generally distrib., chiefly in silt areas, known. Drim. breweri-type. Common, but solely in pebbly areas. Stridulation very distinct, to chick-tschick, tschick, not rapid. Drim. gracilis abundant, but solely in sage areas -- stridulation distinct. Drim. bilobata-type 1 single ♀ seen - taken in sage area - diligent search could locate no others. Aeoch. carlini. Numerous but local on fine slope, both silty and pebbly, not exhibiting a preference for the latter. Stridulating loudly. Watched usual aerial performance. They soared into the wind and rose and fell about a foot during the act, which was performed about ten feet from the ground and lasted 2-3 minutes. Material very variable in color tone, and generally very protective in character. In features the mat. is quite intermediate betw. the rare, throwing each way. Mel. atlanis-type - a single male in rabbit mesh station. Mel. infantilis - very scarce in open areas. Mel. ? flabellifer type 1 ♂ in sage area - could locate no

others - Acolopus 1 ♀, all sum, sum after long search, in area of mixed sage and composites. Hisoria can. 1 ♂ in sandy wash bed - 1 other sum.

129 + 203 = 332

1922.5. Warmsutter, Sweetwater Co., Wyoming. Elev. 6700 feet. August 10, 1922. (R.)

Gently rolling plains, with patches of sage and Acolopus bush in little draws or drainage ways, much of the flat bare, sun-cracked silt, and low bush grass sparsely distributed. Surface all silt, no rock outcrops. Results very poor.

Cridilacris 1 ♀ sum - taken in area of low sum, search several hrs other sum. Hierotmeza, apparently scarce and very local, 3 sum, 2 taken, in bare area, but not on broader bare flats. Trim. vinc. numerous - migratorius except in heavier sage areas. Trim. agrestocum, local and not common on bare silt areas, extensive search made and almost anyone seen was taken. Trim. gracilis numerous in the usual situation - i.e. among the sage.

Aeolopus s. canus. Only local in Aeolopus both of which a sample & photo. were taken. Four females, all dead, taken by beating sage, with much brush beating, failed to bring a ♂ to light. Sarcobatus vermiculatus (Hook.)
A beautiful day-flying moth was numerous, flying almost entirely on sage, with a flight like a winged bullet. After many vain efforts to catch one, I found one resting on sage and this I secured by placing a bottle on it.

28 + 332 = 360

1922.6 Rock Springs, Sweetwater Co., Wyoming. Elev. 6250-6500 feet.
August 11, 1922 (R.)
Craggy sandstone hills, with flat areas largely covered with an abode loam resulting from weathering of this rock. Various hard, nearly aburty, outcrops of reddish lime are prominent features of some of the hills, conf. name evidently near base level. Work was done on hills n. & e. of town and along the narrow silt flats of Killpecker Creek. Plant cov. largely sage, stunted on the hill slopes. Grass

size along the flood plain of Killpecker Creek. Mixed with sage on the bottoms only is the plant called Axyloplus bush at Wamsutter, while in the same situation and on the hills occurs a spiny Atriplex. Trim. bilobata locally abundant on low spots of silt, both on the hills and on the flood plain, but never on the rocky buttes. Females relatively few. Species active but not difficult to secure. Has a long, rapid strideulation. Occasionally flies into Atriplex. Trim. agilescens. Locally numerous on both hills + flood plain, rarely on rock surface, generally on silt. Trim. gracilis a few in the heavier sage + bottom land - one taken. Trim. brunneri-type with yellow legs, locally numerous on rock surface in hills. Trim. circulata important common on flat, particularly on rubbish piles, roads, etc. Melanoplus scarce on hillsides. Aeoloplus on hillslopes. Aeoloplus in sage, Atriplex + the other bush on flood-plain. Numerous locally, ♂♂ hard to secure - all taken by bush tramping. Mel. flabellifer type among sage, both on hills and in bottoms, very elusive and

difficult to secure. Sage Mel. t.p. all C. decorticum
seen, in sage.
2 same day - flying moths at Wamsutter, taken in sage, two or three seen flying.

92 + 360 = 452

1922.7 Granger Sweetwater Co., Wyoming. Eled. 6280-6400 feet. August 13, 1922. (R)
Two flats along Blacks Fork of Green River, sandy and with nothing except Trim. vinculata, which was also on road, R.R. right of way, old ballast pits, etc. With R.R. one old ballast pits, then sage flats - about a mile away bench land with pebbly surface and sage + Atriplex cover.
Cordillacris - very scarce in sage areas. Aphlea, a few on sage flats, seemed one, last month through Rock in notes. Melanoplus very local on sage flat and on bench. Trim. gracilis generally distrib. in sage, but more numerous on flat than on bench. Trimero-legged Trimi-type Trim. scarce on bare bench, two seen, one secured. Trim. tristata

generally distrib. + locally numerous in sage areas, frequently flying into sage, females here apparently more numerous than males. Aeoch. carl. in sage areas, both on flat + knoll, but more numerous on latter. The blackish indiv. apparently was in no way protected by its coloration, as everything in vicinity was reddish in color. Small sage Melan. not common, and as usual hard to trace. Much track reading done to get the fair record.

44 + 452 = 496

1922.8 – Evanston, Uinta Co., Wyoming. Elev. 6800 – 7100 feet. Aug. 14, 1922. (R.)

Hill slopes south of town, covered with sage and a gullied flanked composite (sample taken). with the bare stony areas on the knoll of the hills.

Mest. Kiowa – Frequent and local.

Hippiscus neglectus – Scarce, well distributed. Hipp. of the corallipes type 1♀ at bottom of

hill slope. Drim. circulata as usual on roads and waste spots on outskirts of town. Drim. frac. abundant in sage areas. Drim. tibiata local + scarce at about 6900 feet. Drim. f citrina type well distributed, numerous. Drim. f humilis type at higher elevation, locally numerous. Lumb. cal. generally distrib. but most numerous in the pebbly beach land at 7100 feet. Rhef. infantilis Abundant, but apparently partial to yellow flowered camp. from which sample was taken. Sage brush Melan. numerous, but difficult to secure, both sexes. = Chrysotrammus puberculus (D.C. Eaton)

118 + 496 = 614

1922. 9. Evanston, Uinta Co., Wyoming. Elev. 6700 feet. Aug. 14, 1922. (R.)

In meadow-land along Bear River. Acrydium- and find no adults, in one area of short grass, a spongy spot, very local and not numerous.

Chaetopappus common in tall grass. Cymopterus in same. Med. sativa-rubrum ditto.

27 + 614 = 641

1922.10 Bear River Riverside, 5 miles E. of Evanston, Uinta Co., Wyoming. Elev. 7400-7700 feet. Aug. 14, 1922. (R.)
Slopes of hills covered with sage + yellow-flowered composite (same as 1922.8) with scattered junipers.

Artemisia very scarce on red soil on slopes. Orthocarpus gracilis in sage, common. Orthocarpus tenuiflorus along road. Cirsium undulatum + Cirsium on slopes. Med. infantilis + Med. sage bush destitute about as at 1922.8. Cymopterus in little grass swale on floor of valley at 7400 feet.

16 + 641 = 657

1922.11 Ogden Reservoir Ogden Canyon, Wasatch Mts., Co., Utah. Elev. circa 5000 feet. Aug. 15, 1922 (R)

marked on canyon flrs and low slopes, along water's edge with sandy muds, but virtually no grass, away from immediate vicinity of the water the surface was parched and dry with yellow flowering tar-weed and a few other woody plants, thin up slopes to low edge of mountain scrub proper.

Amphitorus - one in dry ground - all sum. Cummula in immediate vicinity of water, not common. Cyphia pseudor. in dry sections, but near water's edge. Hyssoptera in sandy dry sections, abundant. Lam. caerulepis - single one on sandy. Circ. rubula on rock exposures and areas of broken stone, numerous, but more so down the canyon as seen from trolley, than at the reservoir. Mel. atlanis by millions on dry areas. Mel. lamm-rubrum a few in vegetation at water's edge. Mel. packardi mixed with atlanis - & rare. Neoponotettix festivus type 1 ♀ seen in tar-weed yellow flow. composite, taken, but very close

much failed to reveal another specimen. Conringhalus a few in vegetation at water's edge - could find but a single ♀. Male Oedipoda was taken walking across the dirt-built road of the canyon - much nearly failed to touch any more.

52 + 657 = 709

1922.12 Clover Valley, Elko Co., Nev.
VIII.16

Sagebrush hillside

Trim gracilis occasional

Trim brilliant red leg locally in colonies. Very aggregates.

Trim small blue-leg common in bare spots among sage

Trim rebellis gr 12R

Trim pricei common along dusty road.

Hippiscus large, few in sage

Hippiscus rugulosus and common in sage

Melanoplus H in sage brush

Hesp viridad trimmus H in rabbit weed near irrigation

Chortippus common in wet meadow

Perognathus 1° H same, only one seen

Mus. musculus rod common and Mus cinereus. Just in sagebrush

Conoceplalus common in wet grasses.

Cynomys common on bare ground in sage.

Cordillaeris all H, occasional same.

Mus. packardi common in wild grass fields.

Neotoma very few in sage brush.

769 + 709 = 1478
1478 + 125 = 1603

22.13 Ruby Mts. Nev. East side above Clover Valley. 8000 ft.
VIII.17. Sage brush slope with sparse grasses & yellow flowering plants and chaparral.

Amabrus 1° H in sage brush very few up to this elev only

Steiromys occasional in, deer thick woody plants like chaparral.

Xanthippus occasional

Platygobbrus 1 pair Rotters H one bare ground among sage. Very alert and jump could distance 70' as alert but much

less rapid.

Trin nipp mod nos in age.

Dedaleonotus occasional in low bushes & age brush.

Mel atlanis mod common

1603 + 38 = 1641

22.14 Rame bud 8500 ft.

Circotettix 1st time in chaparral this up frequent in rock slides & bare slopes at 10000 and occasional up to 11200.

Trin nipp mod nos up to this point, few above not found higher than 10000 ft.

Platybothrus small nos everywhere in short vegetation Androsace & arctic alpine flowers and low plants up to 11200 IR others ft.

Xanthippus few up to 10000

Mel alpinus few at 8500, more numerous at 10000 & a few up to 11200.

Stenopyg 1 ♂ only one seen at this elevation & but one above at 9800

1641 + 30 = 1671 22.16

22.15 Same 9800 - 10000 ♂♀
all Relict.

1671 ± 25 = 1696

22.16 same 10000 to 11200 ♂♀
all # see notes under 22.14

Circotellis
Mel. alpinus
P. labyrinthicus
Succinea sp. Succinea auffenbergi

1696 + 42 = 1748

22.17 Wells, New. All H
VIII. 18
Alsoli flat, muddy shore
grass (Distichlis)
Succinea locally in mod
nos. 4♂3♀
Succinea ? vocalis band
Jan, 2♂2♀; heavy band
frequent, 0 taken.
Succinea haydeni locally in
small numbers. 3♂3♀
Carinula 1♀ only
Succinea avara 1♀ n

1748 + 19 = 1767

22.18 Sparks, Washoe Co.
nw. 4400 ft. VIII.19. Ill N.
Selaga with patches
of dry short grass.
Cryptia sp. — 10
Eurotiuppus 10 only
Mus Ecicitt 17, Sh. modabb
Mus mex. very common 0 Tdm
Melator occasional 2♂
Conoyoa one bare R VC
ballard, common 30 ♂ 29
1767 + 10 = 1777

22.19 Same as 22.12 VIII.18.
Adalia gun dish, occul on
sage brush
Asp n termins in bunches
of composites, scarce edge
along base of hill.
Cardiacris small numbers
both gun dish on sagebrush flats
Melator 1♀ on sagebrush plain
Trim caerulipennis all ♂ on bare
centeropo of gray volcanic rocks
on crest of hill, mod. nos.
Sali. nos
Trim suffusus in narrow
belt of aspen along stream
1♂ in. edge

Aplopa IR, others H in grasses among sage brush, occasional but only in area of 1/2 mile up stream about 100 ft above ranch.

Suboara very few on bare spots among sage brush

Dicot carolina 1# few about corral.

Corydalis ? 2# in short grass on dry sand along stream in aspen thicket

Hippiscus common in sage brush

Hippiscus 2d sp. 2 or 3# in short dry grass area.

1777 + 182 = 1959

22.20 Sutcliffe, Pyramid Lake, Nev. VIII.19.22 4000 ft.

adobe bare soil dotted with greasewood (Sarcobatus) and other desert shrubs and w volcanic rock fragments

1959 + 6 = 1965

22·21
Chester, Plumas Co. Cal. 4300 ft.

VIII·20.

Fields, very dry with covering of delicate short grasses.

Dissost squarrata locally in moderately large, scattered colonies.

Conyza mod common locally in comparatively bare spots

Hel devastator few, quite distributed.

Cammula pulverida common

Forest chiefly of yellow pines, glades, very dry with scanty covering of delicate short grasses and plants.

Idiostales green 1H

Deciduous few & 1H brown

Trine cyanipes 1 & H

Red borealis few occasional all but 1, H.

Trine suffusus, mod nos.

1965 + 66 = 2031

22.22 Lower south slopes of Harbison Peak, Plumas Co. Cal. 5800 ft. VIII.20

Lupinus nuttallii mod nos. Mel saltator pre in chaparral all H

Ced b pacificus mod all nos in chaparral

Melanoplid n sp very scarce in chaparral all H

Forest of sugar pine, low chaparral of manzanita, plant sample sept 22.23 and low canyon areas of chinquapin where the new Melanoplid was chiefly found.

2031 + 24 = 2055

22.23 Harbison Peak, Plumas Co. Cal. VIII.20 8000 to 9200 ft.

Bradynotes very common on weathered lava covered with lupine only — in really great numbers scrambling and clumsily jumping about. 9000 - 9200 ft

(Lupine Ent. 22 #2 Lupinus obtusilobus Heller)

High elevation fauna

Melanoplid nsp (A4 others H) locally common in chaparral (bush plant envelope 22 #1 Purshia tridentata (Pursh)) on summit. Males leap quite vigorously and rarely slide down in bush — On this way being easier to capture than such sliding Thamnotrizon insects as Melanoplus. & very sluggish & heard to locate, clumsy and easy to secure when found

Circotettix undulatus all H Very few on gray lava larger slab rocks slide at 8800 all dark gray, reddish ones on sunbaked reddish bare areas of decomposed lava at summit.

Trimerotropis occasional up to 8900 ft.

Mel adelaidae few in chaparral up to summit

Brunneria shastana mod. nos. rare area of dry recently yellow grasses 9000-9200 and occasional between & in low patches of chaparral

at summit.

Deciid 10 R 1+ 2j+ H, very scarce as Bradynotes. at 9000 ft and 1j at summit in low chaparral

Sarnu Co.

J. simulata Westwood Jc. VIII.19 1+H 5400 ft. on R R ballast

Sarnu Co.

Stanopelmatus 1 jus Westwood VIII.19 5000 ft. under bark of yellow pine stump

2055 + 100 = 2155
2155 + 2 = 2157

22.24 Juniper Lake, Sarnu Co. Cal. 7600 ft. VIII.20 Forest of douglas fir, other firs & a pine

Xanthippus 1 B 2+ H 1 R In dry plants, lupine partic- all sun taken

Bradynotes fuscipes.

Mul saltator 1+ Same

Trim cuffusus mod. nos. Same.

Packed with them Hadrobletta undulatus Downey, Sarnu Co Cal. Elev 7600 ft. VIII.19.

2157 + 16 + 1 = 2174

22.25 Same as 22.22 but 6800 ft.

Bradypotis all H, very scarce in chaparral and 1 on edge of green grassy glade

Lanoptus montanus 1 ♂ H in chaparral.

2174 + 13 = 2187

22.26 Westwood, Lassen Co. Cal.
VIII.21 Elev. 5000 ft.

meadow of short green grass

Acrydium fus mod common, ads scarce on edge of wet area

Trim neglectus mod nos in yellow pine forest.

Decticid green 2 ♂ H Stridulating in sagebrush - bright sunlight at 10 AM - Not very active and easily taken — Sage brush slope Pittown forest & meadow

Decticid brown 1 ♂ H same station

Orphula mod plentiful in meadow where short dry grass grew.

Aulocara very fus & one

Brunneria all H very scarce there & among sage brush

Mel saltator ♀ fus in sage brush

Dedaleonot d pacif few same
Conozoa mod nos in bare
spots in meadow
Viol fluvi rub scarce in
meadow grass alt R
and Agastalor occul same
Campula common same
Trine cyanipes alt H few in
meadow near forest

2187 + 66 = 2253

22.27 Litchfield, Lassen Co. Cal.
VIII.21. Elev. 4200 ft. Sage brush
desert - few composites in addition
and locally very fine dry desert
plants or short distichlis grass
Trine cristata fairly numerous
and general
Trine caerulipennis frequent same
Trine stramma locally in small
numbers
Dedalonotus virginea very rare
agnotellis same
Cordillacris 2 H 1 R same, on bare
ground among sage brush.
Melanop cinereus & small nos.
Hesp woodmani locally mod
numerous in compositis, not
very alert and easy to capture
Paraponcala mod numerous
in patches of Distichlis grass.

2253 + 72 = 2325

22.28 Susanville, Cal. VIII.21
Elev. 4190 ft. Sage brush and
dry grass waste land.
Trim gracilis fw
Trim cacubipunnis same
Circ. lobatus 1 H same
Trim cyanipunnis mod nos
Dirost mimula same
Mel cinereus gr common
Mel devastator fw
Arctalis very scarce H
Agnotelis occasional
Conozoa common in dusty road

2325 + 72 = 2397

22.29 Johnsville, Sassen Co. Cal.
VIII.21.1922 Elev. 4150 ft.
Sage brush flat, soil whitish dust
Mel. packardi very few
Mel cinereus gr swarming,
very difficult to follow ones
eyes due to their numbers
Conozoa common on bare
soil in gully.
Trim small blue leg common
locally on puddly openings

between sage brush - Springs up with a rapid sharp ticking the species is exceedingly quick and very alert but usually only flies a few feet.
Trim. largo Redby 1H same no others seen.
Dedalomod scarce
Trim gracilis very scarce 1H
Hippiscus few
Trim cyanipes 1H
Aulocara 1H in dry dead field

2397 + 58 = 2455

22.30 Devil's Corral, above Susanville, Lassen Co., Cal.
VIII. 21 4800 ft.
Trim cyanipes general and common among grass & in open.
Dedalomod same
and ~~another~~ Hippiscus few
amplist few in very scanty dry yellow grass among sage brush

2455 + 39 = 2494

22·31 Amedee, Lassen Co. Cal.
VIII. 22. 3960 ft.

Adobe flat, bare except for much sarcobatus and occasional nuttalli (salt?) desert bush.

Trim cyanipennis qm distributed fairly plentiful

Trim cristata qm distr but scarce

Aerochoreus carlinianus one large colony where scattered straws projected from the otherwise bare adobe.

Aeoloplus qm distr but scarce

Orphulella 18H in disticholis bordering a hot spring

Conozoa colonies on bare soil in alkali flats & near stony lake

Net nevadensis very common on very low ridge near lake covered with rely dry short marsh grass.

Trim latifasc frequent on alkali flats by lake shore and qm distr but not so numerous on adobe sarcobatus flats.

Net devastator common in meadow grass (wet drier)

Net. Summer-rubrum & acuminata locally mod comm "

Setaria 1♀ Ron sarcobatus flat

Sporobolus mod common in areas of salt-grass, Distichlis.

Trim incubator a few, same as pale trim.

Trim pale common on bare white alkali among distichlis areas around hot springs.

2494 + 224 = 2718

Cuttoplulus ♀ j H | In badger holes on sarcobatus adobe flat after dark & in wagon ruts there — 1 adult seen disappearing down hole. Long search.

2718 + 26 = 2744

22.32

Alturas, Modoc Co. Cal. VIII.23

4500 ft.

Conoza common everywhere in bare adobe areas on sage brush valleys & flats

Mel dorsalis * very common in sage brush as well as cultivated fields

Eudalia * frequent in scarce, locally common in valley with sage brush & some composites

Trin gracilis * mod common generally distrib throughout sage & mod common
Vulp vulpina 1R in sage
Trin cyanipes * very common locally, mod common general throughout sage.
Sul Euereus * very common very mature in sage
Sul Trin-nub mod comm in irrigated area of green grass
Lonoe occid small nos same
Chortophyps mod comm same
Euphilia * fair occasionally met with in sage, one large colony in same where there was some short dry yellow grass.
Aerod carbunculus all # bare area beside road near sage brush — all in one small colony.
Dissost spurcata all # in same location, at larger but more scattered colony, also seen in dry field once under cultivation
Amblycera * fair # 1R in taller field

Melator mexicanus 1H 6 others R in small mos sauce & 1 in grass of irrigated field.

Hyptis emoryi very scarce in sage, a few in dry field once under cultivation

Cercidium microphyllum * very few common in bare spots, adobe, & dry field once under cultivation and one in sage brush 4R 6 others 4H

Sceloporus magister * 1H very scarce in sauce field & 1 in sage all R.

Anolis sp. locally in fairly large colonies in sage. An active species which, however, does not fly far.

Dicteid 1 of 1H 1 of R An adobe covered with scanty yellow grass & scattered sage brush

Spiny large red leg 1 of 1H same

ASTERISK = lava plain above valley NW of town PM. Elev. 5000 ft.

2744 + 283 = 3027

2233 Lakeview, Lake Co.,
Oregon. VIII.24 Elev. 5060 ft.
Sagebrush hillsides & slope
dry yellow grass.
Mel. devastator very common
Cedaleonot mod. numbers
Mel microcephalus ~~coop~~ common
Trim cyanipes very common
Dissot vernusta mod common
Mestobregma few in short
dry grasses of flat near
bare white alkali patches
Trim latifasc 1H same
Aulacara mod nos "
Argilia 1H in dry field
Dissot carolina scarce, 1H
same.
Hippiscus same
Absentelles 1H same
decantlus cal? 1♂ beating
from dry weeds at mouth
of a small canyon.
Cammula in fairly large
colonies as Mestobregma
Trim vicina or pale ssp?
Few in dry short yellow

grass about bare white adobe areas — Wing band weaker than usual in 1 or 2.

Cricotettix mediolatus 1H in waste area in town.

Melator nevadensis fed, as Mestobregma.

3027+120 = 3147

21:34
Sugar Hill, Goose Lake, Cal. VIII. 24. Elev. 5300 ft.

Mel ~~saltator~~ lepidus locally in mod nos in yellow pine forest undergrowth of chaparral (partic Ribes (?) bush like #1 22.22) and weals of ground chiaroscuro. 8R17H

Stenotrypis very few paces, in sage of sage brush flat and in short dry yellow grass in openings of pines 6H

Trimerotropis suffusus ♀ few in yellow pine forest

Oed. Arphia, Dis. agrec, Trim cyaneipes, Aulocara Mel. nitens ♀, Mel devastator elsewhere in this region.

3147+74 = 3221

22.35 Jessen Creek, Goose Lake, Cal. Elev. 5000 ft.
VIII.24

Lava plateau, flat, with very dry sage brush and few junipers - Much lava and obsidian.

Cercot. undulatus common on lava.

Other sps as 22.33

3221+27 = 3248

22.36 Cedar Peak, Warner Mts., Cal. 6300-7200 ft. VIII.25

Audubon mod numbers in scanty herbage, chaparral & sage 6300 to summit.

Trim. suffusus mod nos in comparatively bare spots where scattered firs grew - 6300 to 7200 series taken.

Cercot. undulatus mod nos in bare rocky areas series taken same elev. as suffusus.

Trim. cyanifes common everywhere to summit.

Trim. caerulescens (see

on bare rocky areas, usually in steep places, 6300 to 7000 ft.

Neel sabulator gr., 1H at 6300 in scanty herbage of canyon bottom.

Brunneria obstacea in dry yellow grasses and plants at 7200 ft; here very scarce 3H.

Xanth. neglectus Jew, as H. supplicus.

3248 + 46 = 3294

22.37 Cedar Peak, Warner Mts., Cal. 8000 to 8400 ft - summit VIII.25. Hudsonian zone but sagebrush still present. Rocks abrupt slopes, areas of short dry yellow grasses and a variety of low plants of the Hudsonian zone - locally a few fox-tail pines.

Arphia 1H very scarce in grass areas 8000-8400 ft.

Trim cyaniptes generally common. 1♂H purple tibiae

at 8000 ft, others in the immediate vicinity were all perfectly normal - in grassy area.

Brunneria abdita common in grassy areas, occasional elsewhere - 8000-8400 ft.

Pseudosaltator sp. 1 & 2 ♂ only seen 8000-8200 ft near low wood and small chaparral plant there only Jun indet. sp. 1 (same as Harkness Flats)

Circotettix cupressus common on rock slides and about lava pinnacles 8000 ft to summit.

Prisostira venusta 1 ♀ 8000 ft in grassy area. Only one seen

Camnula pellucida 1 ♀ seen

Xanthippus neglectus Jun 8000-8200 ft.

Xanthippus rarer sp Jun and very alert, in grassy areas & also among rock areas 7900-8400 ft.

Dedalocnot modi common everywhere exc in bare

rock areas.

Trim cyanicpumilis up to 7900 ft on steep bare rock slopes about lava pinnacles

Bradypodus very fw in stunted sage-brush areas with almost bare ground between 8200 to 8400 ft.

Steiroys in stunted sage-brush, fw and 1 fw at summit in short grass among rock fragments 8000 to 8200 ft. 8 ♂ R 3 ♀ H

Dedicid RARE 1 ♂ R on bare rock fragments w a few low Artemisia plants at base of lava pinnacle 8200 ft.

3294 + 122 = 3416

about 20 others

29-38 Jonopah, Nev. 6000 ft VIII·27

Rolling desert hills covered with low clumps of Atriplex, sage and other desert bushes - Bare ground between, local clumps of composites and in some areas quite a little scanty grass of several species.

Cordillacris 18 27 ♂ in areas of scanty grasses.

Trimerotropis latifasciata all ♂, very few in bare alkali wash areas. Alert and vigorous

Trimerotropis cristata few widely distributed.

Trimerotropis bluelerae scarcer, same but more partial to pebbly patches. This species makes a louder & sharper stridulation than cristata.

Trimerotropis pallidipennis mod nos, most adult of the Trimerotropi here.

Circotettix carlinianus 17 ♂ in adobe area among desert bushes in flat valley bottom.

Trimerotropis thomasi 17 ♂ 18 ♀ same

Conoga all H one small colony, same.

Nestor impexus rare, as trimerotropis blue leg-

Aeoloplus trimaculata all H. Very scarce, small gray specimens in desert brush, larger made in tumble weed.

Ibanumbria 1 ♀ H on bare ground under desert bushes

Melanoplus differens ♀. Exceedingly alert, rapid and agile. The dark gray specimens in desert brush, the more yellowish in composites. Scarce.

Hesperotettix viridis H 2 ♂ R very rare in composites.

3416 + 59 = 3475

And 20 ♂ H Figurotettix, Fernley, Lyon Co. Nev. VIII. 26 - mod. common in desert bushes of sarcobatus flat - night, stupid frequently when approached while it was hot & still but

a wind and cool shower coming up / no further sound was made /

3477

22·39 Millers, Esmeralda Co., Nev. VIII·27 4750 ~~4900 (?)~~ Ft.
(1) Sandy adobe thickly dotted with atriplex and other desert bushes, giving place to (2) Sarcobatus and (Plant 22·39A Atriplex canescens (Pursh) and (Plant 22·39B Sarcobatus vermiculatus (Hook) along border of alkali flat.

Trine abunda occasional and generally distributed between desert bushes on bare ground.

Trine crustata same but less general and not as abundant.

Mel arenus fr IH in desert bushy plant near alkali flat.

Eucalolutes IR same

Anoloplus crenata fre in desert thorny bushes near alkali flat. IH.

Derotrema pinata very few on bare gravel & pebbles bordering alkali flat.

Holcosticta aridus 1R on bare gravelly soil between desert bushes.

Parapomala 1R in thorny desert bush.

Ateloplus 17R found dead in top of thorny desert bush.

Figuroletta frequent in desert bushes 1R6H particularly Atriplex.

Eremopedes 2H resting in tops of thorny desert bushes near alkali flat. Dec. from Sarcobatus the others Dec. 22.37B.

Zacyclophora 17R 1dead 7R 2&6?H in spiny bushes near alkali flat. Almost all were resting on or near the tops of these bushes, several remained motionless while several scrambled clumsily down towards the base of the bush when approached. Females were found usually at

considerable distances apart but once two females were located in the same bush.

These insects apparently are greatly protected by the similarity of their coloration to the plants in which they live and by the poisoned spines of these plants. Their size causes them to be able to move through these spiny bushes only with decided slowness and when removed from the bush they are found to be able to crawl and hop only very clumsily. Upon being touched on the head repeatedly an individual appears to become much excited, straddling out its legs, raising itself upward with fore limbs extended

as if to grasp the approaching object while at this time the black wings are spread laterally and are caused to make a rustling sound from time to time. So clumsy is an individual that, once located, escape is virtually impossible.

Tetanocera 1H on ground among desert bushes

Stagmomantis found concealed in sarcobatus and other desert shrubs while searching for Coleoptera. 2R 1H.

3477 + 52 = 3529

22.40 Coalinga, Fresno Co., Cal.
VIII. 30 Elev 600 ft - Hilltops 700.

Flats & low rolling hills covered with short dry yellow grass - some large areas dotted with desert brush (Elev 22.40 A atriplex canescens (Pursh) and a few small areas of bunch composites.

Anoloplus californicus ovipositor
in beetle Enc 22-409- Quite, and
often be found perched on the
tops of these bushes, when
approached dropping down into
the grass where they are
difficult to follow. In spite
of this and the fact that they
are a most powerful grasshopper
they were taken with little less
difficulty than any other of
the genus, due to the fact
that they seemed dull, by
no means as wary as usual,
and could often be urged
before becoming alarmed
and alert. Not only can
they leap with great vigour
but they are powerful fliers
as well.

Agno sinuosus mod common
in dry yellow grass. Powerful
at leaping and flying, indeed
are taken with added diff
as they are alert but move
a rabid of squatting, so
that the necessarily very
rapid sweep of the net
misses them unless it
touches the ground at the

spot on which they rest.
Primerotr paroyea in same 17 H
Trim? blue wiped. Common
and generally distr in some
wherever small bare spots
occurred. In this microcosm
they were very difficult to
see when on the wing.
Though powerful flyers
they did not usually go a
great distance and were
easy to capture as they
rarely flew up again until
too late to escape a rapid
sweep of the net. acts like very much D. vermita clouded, red?
Eupatorium small moo
in bunches of composites
in wet small area near
arroyo. 10R5H
Melampo large comp. g 3
Occasional in clumps of
composite & other weeds
in bed near arroyo.
Trepidulus Hyalinus 1H in
dry yellow grass on Buijarral
Hills at 650 ft.
Trim minc fwo in washes
and along roads.

also - 3 Neotoma, Alcalde, Fresno Co. Cal. VIII.30 H at night, 852 ft. One fairly large colony located in cottonwoods and 2 Taken; neural found dead in spider webs of bank under these trees. The stridulation is faint, an interrupted rustling - rarely a succession of "ticks", by no means as regular or decided as the stridulation of Neotoma Lasiurus obscurus.
about 10 others

3529 + 182 = 3711

22.41
Hoskins Junction, Tulare Co Cal. VIII.30 all H.

In field of short, dry, yellow grass with a strong smelling composite (?) in places.

Trinomys red-legged in bare spots in colonies. A very alert species, the females particularly difficult to approach. Moderately common.

Trepidomys hygeinus very fond of short dry yellow grass

Typical Perognathus

Agrimoti sierrarum occasional same.

Anall juv Encopt? 6 anim.
Dysdot vennsta juv anal.

3711 + 20 = 3734

22.42 Alcalde Canyon, ~~Mocho~~
Diablo Range, Cal. VIII. 31
Elev. 950 ft.

Sandy adobe flat area in canyon bottom, with dry yellow grasses and clumps of composites & willows.

Trim ~~albipes~~ (subflava) all H very juv there

Trim anic occasional

Trim (agilis) pale a large scattered colony, particularly in places where small bare spots occurred The males make a tickling sound as they alight, but not at other times. 10 R others H

Juv complex mod nos in composites

Agius sinuatus mod numerous in dry yellow grasses.

Sclerotinia ~~sp~~ a lit very juv in clumps of willows

Trim? blue-wing very juv as albo/subaeneata.

3734 + 87 = 3821

22.43 Waltham Canyon, Fresno Co.
Diablo Range, Cal VIII-31
Lower end. Elev. 1200 ft.
Flat of dry thigh yellow grass.
Clinoplura local Merc all R
Trim pale 1# in wash
Trim vine same
Mal devast in grass

3821 + 8 = 3829

22.44 Priest Valley, Diablo Range, Monterey Co. Cal.
VIII-31 2500-2700 ft.
Morsea 1R beaten prom.
Clarkise — much beating failed to reveal others.
Decaulus 2juv 1R 1H same
Decaulus ads beaten from tar weed areas on steep slopes.
Clinoplura occasional there
Dedalomotus same and very few in short dry yellow weeds and grass

under oaks.

Mel sp? pale short w- mod nos in bottle tree above localities.

Briost vernista locally few in open dry short yellow grass areas.

Mel decost few in Tarweed

Chimarocephala jno H. There small jno occasional in dry short yellow grass.

Trimorph thalassica 2 R IH same, on ground among scrub oaks, moisture needs diminish.

Ctesprot pacifica occasional in tarweed.

Ael sericea? 17 H same loc.

3829 + 126 = 3955

22.45 Same as 22.43, but in zone of oaks, 1500 to 1600 ft.

Mel sp? few in short dry yellow grass under oaks

Acdalion scarce,

Trim near but not thalas in small colonies scarce on hillside.

Trim pacifica in short dry yellow grass few just near stream

Dissod neuusta quite numerous, same.

Trim? blue wing, very few same.

Acrydium 2R beaten from small green area in wet spot of stream bed.

Paropomala 1R1H in dry yellow distichlis near stream bed.

Cled. inguna 1R1H 1500/ft in wiffs dry yellow oat-grass.

Cliopleura few there 1R5H

Nud compl 2r few near composites in oat grass.

Agnoot. aciculatus occasl in oat grass.

Nud dessat & Dissod neusta same.

3955 + 67 = 4022

22.46 Jewetta, Bakersfield, Cal.
IX-1-1922. Elev. 450 ft.

Hard gravelly-flat, scantily covered with short dry yellow grass.

Dedal suguia occasional there.

Trim blue-wing small colonies at wide intervals there. All H. scattered

Trim pale all R & colony in area about 100 yards across.

Nul devastator occasional there and in green thicks but short grass along irregating ditch.

Agneod nivranus occasional on flat, common in thicks but short green grass along irrig ditch

Nul differentialis red leg. Abund in thick but short green grass along irrigating ditch.

Nul marginatus mod numbers same. When individuals of this sirect flew out and dropped in the water they swam to shore with rapid vigorous strokes that made little jerked a small bubble accompanied by a snapping sound

Nil complanat gr. Few in composites and brush Enc.
22.40.A - along irrigating ditch
Asperotettix lin mod nos
in composites along paths.
Acolop californicus very common
in two bunches of brush, Enc.
22.40.A along irrigating ditch -
Some undisturbed. The
majority were in the tops of
this brush and 2 to 4 could
be secured by a sudden
vigorous sweep of the net
about 30 others
4022 + 160 = 4182

22.47 Caliente, Kern Co. Cal.
Hills west of - 1500 ft. 1X.2
Dry short yellow grass and
patch of tar-weed.
Melanoplus RN scarce
Agenco pernanus Hoscul
Dissost. apericata 2R others
H one colony, 1R at
Caliente in weedy ville
composite clumps &
scanty yellow grass at
1300 ft.

Trim.? blue wing mod nos along bare gravelly area Mel. compl 1H in composite made at Calexcelo 1300 ft. Trim californicus common there.

4182 + 22 = 4204

22.48 Summit of ridge south of Walker Basin, Kern Co., Cal. 4000 ft. 1X.2 Rolling hillops with short dry yellow grass, dotted with oaks and ("Juncus") grass. Dipod neomexicana mod nos. Trim sp obscured small numbers in grass near oaks. Reithrodon phaeopus? 1 RIH same. Trim rich scarce.

4204 + 22 = 4226

22.49 Walker Basin, Kern Co. Cal. 1X.2 3339 ft.

Thick yellow grass, dry meadowland

Mel. dwas. talpoides very numerous Cammidae pallescens 1H in weeds

Ced. virgata IR

Nul compl gr Juo in green weedy plants in dry grass

4226+12 = 4238

22.50 Bena, Kern Co., Cal. IX·2

875 ft. Wide gravelly wash thickly dotted w large clumps of composites.

Trim cal common.

Agnot nevadensis frequent

Nul compl gr Juo

Trim? blue wing moderat abundant.

Trim nine in small nos.

4238 + 16 = 4254

22.51 Piker Canyon, no of Walker Basin, Kern Co. Cal. 3000 ft. IX·2.

Ridges & canyon, short dry yellow grass - oaks & (pinyon) pine.

Dysot serrata mod common

Trim blue-gr wing small colonies near oaks

Ced virgata very scarce Nul deb stat small nos.

4254 + 20 = 4274

22.51 Tejon, Kern Co. Cal
ft. IX. 3

mountain valley, short dry yellow grass, great oaks.

Cliscopleura 1 H in short dry yellow grass.

red devastator frequent here.

Dissost ? ? ? ? ? ?
Cryptia juv in dry leaves under oaks

Mel new small colony in one spot under scrub or sapling oaks, in dry short yellow grass on hillside. R 10/17 others H

Pedaloriotes 1R same place

Trim blue green wing ? ? ? ? ? ?
H ? ? ? ?.

Conogon 1R in dusty road

4274 + 25 = 4299

22.52 Bear Trap, Mt Pinos, Ventura Co. Cal. IX·3. 6400 ft.
mountain slopes of yellow pine, patches of scrubby green plants open areas of sage, with occasional mountain oaks etc.

Bell marcgravianus common in boggy spot of thick growing short green reed-like grass Coll. ts de Stamper, Ventura Co. Cal. IX·3, 5700 feet.

V. ch. common in small patch of low green plants under yellow pines, R Ellers H.

Dedaleonotus Jew same R Ellers H.

Trim. nuppiues fre on bare ground under yellow pines all H

Morsea in same / similar plant is previously determined.

Trim. yanipes mod common everywhere - the pale

mottled areas on gravelly gravel in open alternating sage bushes.

4299 + 35 = 4334

22.53 Downer Ranch, Mt. Pinos, Ventura Co., Cal. IX·3 5200-5400 ft.

Pinus sabiniana on bare granitic gravel hills, areas of sage and some manzanita.

E W Downer, Stauffer
P.O. Ventura Co., Cal.

Pinus californica x sabiniana on granitic gravel flats with patches of mountain plants & bushes.

Pinus cyanipes occasional there, on pinon-dotted slopes and irrigated areas.

Morrisia IH on bare ground among dry weeds, near bushes

Pinus tuberculata prefers and the most abundant species on pinon-dotted slopes - always on bare ground but occasionally fly up into trees.

Rub cuneus 72 1H in rage
brush. Quite one plan.
Circ. Rhamnus 2R 4H.
An exceedingly steep, bare,
light yellow slope with
no vegetation whatever.
Examination of whole slope
for over a mile by both of
us discovered only these 6.
Dedaleonotus 1H in rage
brush flat.
Trine Vespa Jan in cultivated
area.
Tettigids 2H in marshy
border of green grass along
stream. Jan in great nos.

+about 5

4334 + 70 = 4404

22.54 mount Pinos, Ventura Co
Cal. IX.4 8000 to 8500 ft (Summit 8800)
Rolling crest with great yellow
pines, a few douglas fir and
gray bark spruce in the
northern ravines.
Xanthippe 17R others H on
bare granitic gravel slopes
with very sparse fine grass
particularly along borders

of green patches at springs 8300 - 8500 ft.

Cercocarpus small mos about whole granite outcrops and adjacent bare slopes of trail 7500 - 8000 ft.

Trim nuttallii common everywhere under yellow pines up to 8500.

Trim ponderosa occurs same but scarce above 8000 ft.

Veratrum mod californicum common same parts where patches of open grass or low plants grow.

Cladothamnus small mos same.

Carex ? large colony at 8200 in small green grassy area at spring. Also Orpheia all ft 00 Xanthium 7900 - 8300 ft.

Aud micrura ? ft at 8000 00 small bld.

4404 + 99 = 4503

22-55 Same 7000 - 8000 ft. Similar conditions but no spruce, more drop awned, green bare yellow sandy slopes in some places where yellow brown Cercocarpus all were patches

Aesprostellit IR in area of dumps of composites at ± 7600 ft.
+ 45 others
4503 + 45 = 4548

2256 Wash about 300 feet higher than Le Bec and in Cuddy canyon about 1/2 mile above, running west and 2 miles from road.
Mts., Kern Co
Ventura Co., Cal. IX.4 4472 ft.

Poecilotellit small numbers in desert bush in wash, this bush like a closely-knit bunch of wide green stems.

Null. ariduus fr very common in large bushes which grew down to base of foothills bordering wash.

Psychrocistax IR in plant growing as large bushes in wash. Rare. Eurekia bidentata

Null cuneus fr very common in all bunches of plants in wash.

Agnus aureanus mod nos in short dry yellow grass growing between bunches of sandy floor on each side of wash.

Trixa calif. × Eatoni very
numerous there.
Red few in plants in
wash, partic in composites
Circotettix splendidus in
large numbers locally on
gray granite - fragments in
bed of wash.
Acanthus brown 1R beaten
from yellow flowered composite
on edge of wash.
Asp. also mod common in
yellow flowered composite both
in wash on edge of wash.
Trixa blue by 1R on edge of
wash, on coarse granite pebbles

4548 + 142 = 4690
and about 50 others.

2257. Irona, San Bernardino Co.
Cal. 1650-1800 ft. 1X.5

Very gradually sloping drawn
dotted with bunches of dry desert
yellow-gray bushes - generally
Helianthus annuus all & mod
numerous in these dry low bushes
just as at Bagdad but much
more adult and generally
distributed.

Hilaestes aviculus 2ad ♀ H, ♀ juv on yellow ads in wash of receding gravel at 1750 ft.

Trinia blue wing all H along bottom of rough bare slopes of Argus Range 1850 ft.

Dendrolimnas dilei generally distr and quite common over gently sloping draws. Usually perched up in dense bushes.

Conuina snowi pair H 18 R in sandy gravel area of flat among desert bushes and a few tufts of yellow desert grass. Very scarce & local 1640 ft.

Lignotettix very ♀ and local in greasewood on flat draw 1700 ft.

Amconia occasional, perched on taller tufts of desert bushes on draws - 1640 to 1750

Anoloplus 1 R in desert bush at 1700 ft. No others seen.

Paulotettix 1 R same at 1750 ft.

Acanthus 1 R beside yellow sand grasses near draw at 1640 ft.

Hapinoma 1 H 1 ♀ R from greasewood on draw 1750 ft.

4690 + 78 = 4768

22.58. Paramint Valley, opposite Hall Valley, Inyo Co Cal. IX.6
1500 ft.

● Draw, greasewood & desert bushes, mostly "desert varnish" on rocky surface.

Lythrolyle mod common on "desert varnish" areas & flying acc up into the greasewood

Eucnida fno up to 1400 ft, common lower.

Dendromecon delic scarce on low yellow desert wash clumps.

● Baileya mod rare in greasewood.

Helianthus anieles very scarce in wash.

Prim acic acute

Ingiroletta fen in greasewood

Tamaceras pale, earlier

from greasewood; reddish

22.57 from desert brush near foothills of Argus Range

●

4768 + 42 = 4810

22.59 Upper Wild Rose Canyon
Paramount Range, Diego Co.
Cal. 1X.6. 6500 to 8500.

Circolotella numerous on
bare patches of ground,
Associated with rocks fragments
6500-8500 ft.

Nell numerous at 18 ft in
soft brecia at 7500 ft.

Psychomastax 1 & H in soft
breccia at 7300 ft.

Steraplura? one H on
ground among soft at
7000 ft.

Trim. immaculata among
stones 6500 and 18500 ft

+ and 7 others
4810 ± 56 = 4866

22.60 Wild Rose Canyon Spring, 3617 ft IX.6

Neil oliveae mod common in green grass & weeds.

Schistot. absolutae common in tall green weed.

Anoplus very scarce in desert brush, 1R 1H

Trim. blue wing at 3550 on rocky bare ground bottom.

Stilpnids common about running water

4866 ± 41 = 4907

22.61 Panamint Valley at mouth of Wild Rose Canyon 3000 ft IX.6 all H

Trim. spin. 1H ♀

Tamaoeres ♂ jus

Boo Attic 4

Tamaoeres 1 juv.

Also Schistocerca 3 ♂♂

22.60 and

over

Wildrose Canyon, Panamint Range, 4500 ft. IX.6

Sage brush desert, scrub waste.

Lupinus 1 ft in waste

Poecilolellia 1 ft in grass mod brushy bush in waste

Trium vinc. 2 ft

Sandocarpus 1 large pale juv

4907 + 14 = 4921

Also Baldy, Panamint Mts. IX.7 4500-10300 ft. all ft

Bare rock fragment slopes mod rounded top, thickly dotted w sage, some composite & number of mountain flowers mod in a few places very scanty grasses

Cercocarpus Hedera juv distr in small numbers.

Mod Phacelia in altitude sage 10000 to 10100 ft. Local mod absent almost everywhere

Xanthisma juv ~~too~~ very few & widely scattered among rock fragments

4921 + 13 = 4934

22.62 Telescope Peak, Panamint Range, Cal. IX·7 all H

Cnicothlex thalassa qu distr in small numbers in moist pockets — among sage to 10,500 and in scattered forest of ~~Jeffrey~~ Bristlecone Pines to 11045 (Pinus aristata) (summit)

Nul Habellifer 17 same as 22.61 at 10200 on northern ridge —

Also Nul cuneus 22.28 - 1H in sage among pinon, upper slopes of Wild Rose Canyon — at 8600 ft. 1R same locations at 6500 ft.

4934 + 15 = 4949

(small juv orthe (dec juv hind) better keys 1 med bumble bee R Wild Rose Canyon 8600 ft) 2 small 1 med 1 large bumble bees H at 10200 ft.

also 1♂ Capnobotes H in pinon stridulating at night — about 20 were heard over several acres of pinon dotted canon slopes all in pinon except 2 in meadows. So many that

the first vocalizations got all, were twenty feet away caused them to stop stridulating. The majority were in the tops of the pines, 15 to 20 feet above the ground. It was noted that individuals running in the same tree. The one secured was taken after four attempts to capture it on two successive nights— at first it was as shy as the others, the second time the collector climbed into the tree, however, its singing did not cease until he had been mined under the tree several minutes. The second night the insect stridulated some ten feet above the collector when he had remained motionless several minutes after climbing into the lower part of the tree. On the fourth and second night the insect continued stridulating some time after the collector started climbing up into the tree

and recommenced its song after he had removed motoilers in the top of the tree over six minutes, this time being on one of the topmost twigs of needles some ten inches above his head. Due to their extreme wariness and the fact that they begin to slip away through the dense pinon needles the moment a light is thrown on their forms. We consider this species one of the most, if not the most, difficult Orthoptera to capture in the U.S. Its capable of vigorous flight, rarely appear to rest of escape, preferring to slip away thru the dense interlacing needles of the piñon.

Also 1♂ 1♀ Mt. Pinos and 1♂ 1♀ Providence Searles, ~~Cal.~~ ~~Mountains~~ Co., Cal., IX, 5, H. Kern Elev. 3240 ft.

22.63 Juncture of Slate and Argus Ranges, Inyo Co., Cal.
2750 ft. IX. 8.

Desert in mountains, dotted w greasewood, atriplex, ~~San Bernardino~~ Bakersfield, Eriophyllum bursa & other desert plants.

Perot delic few in low clumps of gray desert bush.

Tadarida few very few seen

Bootettix ~~not common~~ occasional in greasewood

Dusara covilleae very rare seen.

Amorpha 1♀ flew from Bakersfield Eriophyllum bursa near small alkali flat

Hilaetus aridus R very few in wash of dried pebbles & gravel above small alkali flat.

Trepidulus 2R very rare seen.

Trim modesta 1R seen.

4954 + 26 = 4980
& 4 others.

22.64 Wild Rose Canon, Panamint Range 5500 ft.
IX.8 5500 ft.

Upper mid & broad portion, just below pinons, drawn and stup washes - sagebrush, Purshia tridentata antelope Brush, Ps shrubs and scattered composites. All H

Lepus 10? 17 in pebbly areas among sage, where autumn the stems small wpls of grass grew.

Ammodramus 10? 17 same.

Icteria modesta 30? 17 1 j 7 same and in more bare pebbly areas.

Icteria virens 17 R

Icteria blue-wing 5800 ft along rocky portion of wash just below last pinons 10?

Amel ariduus 10? 17 in small gray desert bushes

Hesperotettix 10? in Tall composite. Every indiv. was taken in this sterile locality.

4980 + 14 = 4994

@ 20 / hero

22.65 Panamint Valley in wash from Wild Rose Canyon. Inyo Co. Cal. 2400 ft IX·8

Anconia 1 ♂ 1 ♀ - Sum up to 2600 ft, but very fine above 2000.

Bootettix 1 ♀

Anoloplus 3 ♂ from Balsamifolia desert Anoloplus brunei.

4994 + 6 = 5000

also Mul olivaicus IX·8, same as 22.60, 1 ♀. R and 5 tettigids

also Trim modesta lower end of broad portion in sterile wash among pinkish loco clumps of desert brunei H

Also

Ballarat, Panamint Valley, Cal. 1067 ft. IX·8 -

Bootettix 18 H in greasewood

Anconia mod common in area of salicornia growing on rough saline crusted adobe.

5000 + 18 = 5018

+ 13 bullets

and

22.66 Same as 22.57. IX.9

Cominia all H in sandy wash with thick tufts of yellow desert grasses.

Panopoeaba 1R in this grass.

Conozoa 1H at lights at night?

5018 + 39 = 5057

22.67 Indian Joe Spring, Argus Range, Cal. IX.9 2600? ft.

Bootettix very scarce in greasewood.

Hyp sus terminus Occasional in composites beside the canyon bed.

Mel complanat gr. Few in tall composites in and near canyon bed.

Dichopl very few in Baileya and bush.

Hoplosphyrum 1♂ R on bare rocks of canyon bed

Mel aridus gr. in desert brush in and near canyon bed. Scarce but generally distributed.

Trim blue-wing 1H on bare rocks near canyon bed

Stagmom in high grass composite in canyon bed 5000 ft. below ft.

5057 + 34 = 5091

22.68 Coronado, San Diego Co.
Cal. IX·11

Triw crustata and common on sand between beach vegetation among sand dunes on bay side of peninsula 14R

Convolvulus soldanella common in Salicornia and other dune halophytic vegetation in low area of peninsula on bay side where peninsula was about 200 ft wide. 9R

Hesperotettix locally very common in a species of coarse composite growing in & mats of halophytic vegetation. None in the Salicornia

Mel cinereus very common in halophytic vegetation.

Argemulella scarce in areas of salicornia and destitutio.

1 a little

5091 + 113 = 5204

22.69 Tia Juana, San Diego Co.
IX.11.

Low dry rolling hills covered with a low chaparral of which (22.69A Adenostoma fasciculatum) predominates.

Well H.A cyaniges common & generally distributed.
Common saltator H 1920
Rare Horesidoles 9R
in chaparral - on ground or in brush. This insect leaps with great power and agility and when alarmed usually takes several jumps with little or no pause. It can, however, be taken by a quick sweep of the net more easily than other difficult species owing as H.A. ominimus, as it usually the net has passed. A few minutes when closely pursued down to the ground at the base of the brush there remained motionless with caudal limbs extended in that position closely re the twigs & litter of their surroundings

Eucoptolophus in bare spots among dry leaved low bushy plants on lower gradual slopes - very scarce there 1 ♂ 1 ♀ R, 2 ♂ H.

Aedalonot occasional through chaparral, a good powerful but not alert insect.

Cnephasia ? very few, one dist there chaparral.

Trium bluely yellow wing in small numbers on whitish bare ground among patches of chaparral on lower gradual slopes of hillside.

Trium caeruleopunctis all ♂ Sauce.

Brachyusiana ? 1 ♂ H 1 ♀ R Beaten from plant 22.6.9 A prickly a thick low chaparral near the crest of the hill at 200 ft. Continuous beating for two hours failed to secure other specimens.

Schistoc vaga 0 Taken, 2 seen in chaparral

Sandal ? mexicana 1 H Sauce

Lupinus gracilistipes in small bare spaces between low chaparral on hills.

Dissost racemosa 1H, very rare same.

Lactista gibbosus same as Lupinus, more numerous, moderately common.

Prolongsa levana Same and still more abdt, common particularly wherever there was any dry yellow grass in the chaparral.

Clecanthus beaten from chaparral on hills

Silaumtria 1R beaten from near ground in chaparral SE foot of hill.

Stagnum 1 & 2 j in low chaparral.

Stenotus stenophyllus few in a low green bush scattered thru the otherwise gray & brown chaparral on the hillsides.

Agapostemella few in destitute in route of Los Juanes River and in California area at base of hills

Neil differentialis Very few in burdocks and other weeds along wash of Tia Juana River. 16 VII 11

Conozoa on sandy wash of Tia Juana River, mod. common.

Trium vinc Dana.

Paratettix all H common but only in one small damp depression with short grass herbage in sandy wash of Tia Juana River.

Cyclopt Few beaten from chaparral, 2 Sept.

Hesp mod comm in composite in halophytic vegetat base of hills.

5204 + 187 = 5391

22.70 Chulavista, San Diego Co. Cal.

IX.11 Elev. 100 ft.

All taken in high yellow grass and tall green weeds along bed of dry stream.

Eucopt 1 ♀ R

Oecanthus 3 R beating

5391 + 26 = 5417

22.71 Jamacha, San Diego Co.
Cal. IX. 12 Elev. 340 ft.

Desert sands fine and coarse gravelly areas w sparse yellow grasses, low chaparral
Litauetia 1/4 acute. (Same as San Diego)
Burpurot in composites near Sweetwater River.
Conozoa dry sand near Sweetwater River, 1 yellow in yellow stubble field.

5417 + 64 = 5481

22.72 Dulzura, San Diego Co,
Cal. IX. 12 Elev. 1500 ft.

Gravelly hills with low chaparral (Same as San Diego) and a few oaks).
Haplopappus 1/4 under boulder
Parabacillus 1 ~~7~~ R beating.
Hesperotettix 1 or 1 ♀ R " .

5481 + 15 = 5496

22·73 Potrero, San Diego Co., Cal.
IX·12 2323 ft.

Broad valley dotted with large oaks, rolling hills covered with chamise, valley with dry yellow grass, areas of composites, a tar-weed etc.

~~Eriogonum~~ Eriastrum 1½ H beaten from tall but not thick yellow grasses

Hesp stem occasional in one area of composites growing in yellow grass.

Prim cyanipes 1½ ft under oak in dry oak leaves & short yellow grass.

Prim dichroa same and in bouldery arroyo in chamisal.

Morrea 2R beaten from chamisal.

Ach pumila occasional in dry yellow weeds & grasses.

Ach 1½ H in bouldery arroyo in chamisal.

Cinozoa fus in gravelly washes.

Prim pinc fus in valley dry yellow grass areas.

Dorotea aurea rare, local.
Dirist neomexicana rare, very scarce.
Prolevesa, rare, in moderate nos.
Nul durestator rare.
Chimaroc? rare all fall, usual in dry oak leaves & grasses under oaks.

5496 + 73 = 5569

Also Carpomala 17 H 2700, ↑ in area of high, dry and yellow grass

22.74 Campo, San Diego Co, Cal.
IX·13. 2400 ft.

Slope running down to green grassy meadow, reddish brown granule gravel, some dry yellow grasses, composites and scattered oaks. Low hills bouldery covered with chaparral.

Conoglenes 18 H in green grassy meadow.
Asphondylia rare.
Asyndetella occasional in composites on gentle slope

Stagmomantis 5♯ attracted to light at night. This species apparently lives in the rich green foliage of willows and brush near the stream

Micromantis californica 28♯ attracted to light at night. We are confident that this is the species, one or two adults of which may be found after dusk in the tops of the great oaks. The note is a frequently repeated dipping, repeated at intervals of about a second and by no means as loud as the single song of M. californica.

Micronectus 2 ♂ Talsea. Two colonies located in willows of Campo Creek.

Conozoa on bare flat gravelly areas bordering meadow.

Trim rebecca abbotii 17♯ in short dead yellow grass near oaks

Trim texana 17♯ same

Trim blue leg yellow wing locally most common on bare red-brown gravel of gradual roads between low patches of brush and other plants.

Trim albescens, all H small colony on limited area of whitish granite gravel on border of arroyo near chaparral.

Cedalea mod common in short dry yellow grasses, and in composits and other low plants of gradual wash.

Neli cyanipes small nos partic in dead yellow oak leaves and short dry yellow grasses under oaks.

Dirod saussura fair widely distr on bare red-brown gravel or where scant yellow dry plants were to be found there.

Belastes andicus very fair widely distr on bare red-brown granite gravel.

Onisticus nemesta 1H in short dry yellow grasses of gradual slope.

Trim cyanipes 1H scarce near oak.

Protoxya rosacea in dry yellow grass & scanty plants.

Chinamora fair small, mod nos in dry oak leaves and

yellow grass under oaks.
And about 70 others

5569 + 141 = 5710

22.75 Guatay P.O. San Diego Co Cal. 4000 ft. IX-13-
Hilly rolling country, valley oak dotted - ridges chamised.
Dwarf, Red, and dwarf etc as

22.74
Dudleid 18 R beaten from low yellow grass and low plants.
Rec cal beaten from clumps of low oaks. 17 R, others H
Rec yellow-head all H same
Cammula 14 in area of low yellow grass.
Trim cyaneus colonies rather frequent in areas of low yellow grass and along border of chamisal.
Trim tridens 3 seen & taken on bare ground among chamisa bushes.

5710 + 53 = 5763
And 7 others.

22.76 Descanso, San ~~Bernardino~~ Diego Co
Cal. IX.13 3400 ft.

Broad valley with many great oaks, hills dotted with chamisal.

Trim thalas mod common in chamisal.

Trim albes one colony found in chamisal on bare of Metate granite gravel spot.

Mel abrast mod nos in short dry yellow grass.

Ambrosia mod common

Trim cymiger?.

Hosp in composite, scarce.

Conozoa on bare gravelly areas of Sweetwater River bottom

Lithosid common on wet ground where short grass plants grew, scarce.

Parabacillus 2R beaten from short dry yellow grass

Dec yellow-head beaten from low oaks

Dec calif one

Dec mar 4 punct beaten from weedy underbrush.

5763+69=5832

22.77 Cuyamaca Peak, San Diego Co. Cal. IX.14 5000 - 5500 ft.

Pines & incense? cedars, scattered undergrowth of low bushes.

Red wood was in low swampy places.

Trees cypresses & common & yew distr.

Pinus sabiana? was most common tree in grove from about spring in meadow 1/4 dec cal 10th from bottom.

5832 + 37 = 5869
about 50 others.

22.78 Cuyamaca Peak, San Diego Co., Cal. IX.14 6300 to 6515 ft.

Dec cal 10th undergrowth in forest of fir, pine and cedar, at 6350 Adenia was locally in openings of same where low swampy plants occurred to 6400

Trees cypress common & yew distr to 6515 except in the densest forest.

5869 + 31 = 5900
Arctia remota 10 1/4 H as D. cal.

22·79 ~~Jacumba~~ Resort P. O. Jacumba Mts., San Diego Co. Cal. IX·14. 6100 ft.

Dracotettix – In low bush of chaparral bald. Climbing about in the heavy dark lower stems, these insects would be chased into the open easily where they would settle down 4 H, 1 R sitting up in chamise. 6100 ft.

Plant ~~Cod 12.19.A~~ = inside short stem with coarse lanceolate large leaves while are deep green & have an intense slow

Stenopelmus 2 H at night in ruts of dusty road. 6000 ft.

Trim Thalpa mod nos in chamisal, usual on ground partially in bare areas between bushes.

Trim cyanipes mod common in chaparral bald, nearly as numerous in pine woods w grassy undergrowth

Gml cyanipes locally mod common in open areas of chamisal covered w low plants & tufts of yellow grass.

Gryllus 2 H sacque

Amphiforma occasional same as bald gmall in low brushy plant areas in pinewoods

Gmd (Banyek, diff. sp?) as above

Dec yellow head 1 ft in short
holly-like green small
oaks brush? in clearings
at 6000 ft

Dec cal 1 ft in clearings at
6100 ft. (10 pale, brown autumnal
y latter is cupressus Beale)

Paraboellus 1 R in grass
dry & yellow under pines &
oaks

Cleistanthus fine mod numerous
narrow

Asplica rosmona 1 ft rare o
taken in open area of
clearings covered w low
shrubs & tufts of yellow
grass.

5900 + 75 = 5975
about 25 others

22.30 Road Summit about 10 mi
above Jacumba, San Diego Co,
Cal. IX.15. 3600 ft?
Hills & valleys showing some
desert influence. Dry clayey soil
with many almost bare spaces
of granite gravel.
Stipa one 1 ft R 1 ft beaten
from low brushy plants.
Hesp 10 ft 1 ft rare.
Dedalcea small numbers

as 22.74

Trim Wabassica Jpw on bare ground in chaparral.
Trim blue-leg yellow-wing small numbers in open areas where the granite gravel was covered w very scant vegitation.
Trim albex all H locally mod common on bare granite gravel near chaparral.
Dec 1H from low brushy plant Chimaroc jpw Jpw in dry grass under the Jpw oaks in valley bottom.
Dicot pauss as Trim blue-leg.

5975 + 53 = 6028

22·81 Jacumba, San Diego Co., Cal.
IX·15. 2900 - 2800 ft.

chaparral waste, mucky bare granite gravel, a few cultury plants.

Silamentria beaten from dusky plants.?

Hesperotettix occasional in composites & other brush in wash.

Mel arcidus gr white-fem in sage brush in wash & gray

in gray desert brush there.
Panopoumala rare - where
a few wisps of grass were
to be found. all H.
Dirotin occasional on
bare granite gravel.
Trin blue-lg yellow-ray
a few rare. but IR
Agnes all H very scarce
rare.
Cedalcostes very few as
Panopoumala.
Helast axillus 18" H on
bare granite coarse sand
of wash.
Mel cyanipes loc in mod
nos in brushy plants and
cxt-clear. 64
Pmedosmmyle IR in yellow
flower composite growing
over attractive bare area of
valley floor. 2800.
Figurotettix 1H Few there
in desert washes along wash
Tamaxmus 2 yrs. from
low desert plants on
lower hill slopes 2800 IR/H.
Mel comple gr 17 H in desert
area 2800

Anoloplus 1♀R 2800 down

6028 + 72 = 6100
about 25 others.

22.82 8 miles east of
Jacumba. 3700 ft? IX.15
Wynn Pass

Desert draw between juniper
dotted hills. Almost bare
yellow ground w desert
plant and much brush,
atriplex cuneata etc etc
much yucca and other
cactus & agave.

Trim vinc occasional
Trim thalass rarely
Trim blue-leg yellows 1♂ only
Tmt complanatij ♀ 1♂ 3♂♂
in desert brush, very alert
and vigorous; very difficult
to secure, two seen.
Tmt aridus ♀ seen
Tamaonius jno ♀R.
Stagmomantis 1♂ resting down
in yucca
Ateloplus 1♂♂, 1 other seen

bottle corralled in jacca
they sprang about with
great agility & opened them
disturbed and were so
alert that one was taken
only by using extreme caution.
Silaumbrea 1 ♂ beaten from
desert brush.
Sayornis most common there
but shrieked little, cloudy PM
1 H.
Pseudosaurnyle 1 ♂ H beaten
from yellow flowered composite
Bird was by no means
abd at this loc.
Poecilotettix 1 large ♂ seen
but not taken, in desert
brush in middle of wash.

6100+19 = 6119
about 25 others

Pseudosaurnyle 1 ♂ H walking
across road at night in light
from auto camps
Stagmomantis 2 ♂ H, 1 in desert
brush, 1 at auto light at night
Capnobotes brunneri 2 ♂ H, at
night stridulating, 1 in grass
(from midir); 1 brown undersd

in desert bush plant sample kept. This last was very difficult to secure - the ad print stuid vigorously it stopped at a dist of 15 ft this very cautiously appr, 8 minutes later it recommenced in a bush some 10 ft away and could not be located, 10 min later it recommenced in another bush about 20 ft dist and was located & taken by very cautious appr of the hands, which were brought together as nearly as possible. 2d Capsules in Placed Envd. 22.82.A Harrya flavescens Wats.

22.83 Mountain Spring, San Diego Co. Cal. ? IX.16

Sch. vaga 1H in green weedy plants near wet soil -

Argemone 3H in green grass there.

~~Sch~~ Trim deine accord 1/2 H Rept.

Dasolirion dele 2H in sand grey in bushy desert

plant growing in gravelly wash.

Helianthus aridus H on bare gravelly wash.

Pull minor gr all H. Very few in small brushy desert plants — Elev of locality some 200 ft above Mitu Spring.

Libocedrus 1 juv R there.

Practically no ortho on the steep dry mtn slopes & washes from 22.82 to 22.83.

6124 + 15 = 6139

22.84 Coyote Well, Imperial Co Cal. Elev. 270 ft. IX.16

Atsp mod common in high clumps of green composite about spring.

Pull allanus all H, very few same.

Neoloplus few same H in large clumps of desert brush.

Fusara sleg conseq P 1H as H sp.

Encelia few same as Neoloplus.

Enc 1 R seedling.

6139 + 45 = 6184

22·84 5 mi west of Coyote
~~Yuma~~ 85 Well, Imperial
Co. Cal. IX·16

Boulder desert variable
last gradual slopes of
foothills - some 500 ft elev.

Lythrotyle 1 H there.

Boötettix small numbers
in greasewood there, 1 in
same zone 200 ft higher
on hard foothill.

Siguroketttix, myall nos
locally in greasewood zone.

Jusara coville 1 ♂ 1 ♀ R 1 ♂ 1 ♀ H
in greasewood zone.

Dirotus delicatus in low gray
sandy desert bushy on
bottom of wash, moderately
frequent. some 350 ft above ~~sea~~ sea level
Adult nymphs zone
locality, local and few in
no in zone plant and also
in ground clinging patches of
a gray-green desert flowering
plant there.

Nul compl all H in desert
further zone 500 ft elev.

Adult ~~perideus~~ nymphs zone
on bare waste gravel zone

600 ft above sea level and just as Dyer Melic are bare gravelly desert there.

6184 +42 = 6226
and about 7 others.

22.86 El Centro, Imperial Co., Cal. 1X.16 Temp. 114°
In flat of grass (Distichlis) Conoza ambig. mod common, frequent ~~abundance~~ also about lights at night.
Argiwelella, common, freq also about lights at night;
Weed Allenies were fed in tall dry green weeds.
Trigg wink O'Talsen, 1 seen about lights at night.
Dryllus assimilis very frequent about lights at night.

6226 +15 = 6241

D. D. Dickinson, 7 passenger chauffeur - Ran to San Diego gratis & back to Los Angeles from El Centro - Rate $20. per day rest of time, he to pay his board & food. Service as usual, oil at night etc. That we paid later. 6008 Carlton Way, Phone HS628 Hollywood, Los Angeles Cal.

22.87 Kane Spring, Imperial Co., Cal. 142 Dez. 75 ft. blow sea level. IX-17

Orphulella common in salt-grass, Diaticlulis, about spring

Amoonia widely distr, occurred in desert brush, as is usual, individuals often flew to the ground when flushed out of the bushes - Also 6 mi NW.

Ramona desertecola ♂ 3♀ 3 H 1♀ R at sand dunes 6 mi NW of Kane Spring - all found in less than one acre; on sandy wash adjacent with fragments of sandstone 50 ft below sea level. Two females were taken on smooth bare

between grey desert boulders about 2 ft apart, the others scattered over the scene of fragments - stones sandy soil with here & there a slender-stemmed spiny green plant growing about 2 ft high, the only vegetation. The male flew a long distance but not rapidly. The others crawled and hopped about, flying only short distances. Their posture on the ground was much like that of Locusts, pressed close to the ground with legs all raised in a spider-like fashion. The females fluttered up and seemed incapable of flying but a few feet at a time, they flew almost exactly as does Lytta vesicatoria, fluttering to terminate apparently only partially spread.

It required about an hour of very strenuous

quarter of the area to secure the 7 specimens.

Acanthaceae R sweeping brush at Kane Spr

Zygophyllum Macneira in fine grassy & near sand. Hebecat. minimum 16[d] 17 H, the female as ~~Encinia~~ Rincon, the male flew into automobile.

Flaveria 17 R beating from dry brush at Kane Springs.

6241 + 20 = 6261

22.88

Oasis, Riverside Co., Cal. IX·17

186 ft below sea level.

Desert thickly dotted with bushes, a bushy composite & few large grasses & large arborescences.

Anoplus common there desert brush. Very vigorous but continually flying from bush to bush and quite difficult to secure.

Encelia general distribution

Tusaya corallea 1H beating from grass wood.

Lycium mod' now in
greenwood & desert brush.
Bouteloua few in greenwood
Muh coupl gr mixed
numbers locally in desert
brush, but not in the
predominant. Acoloplus both
Hesp mod common in
brushy composite.

6261 + 38 = 6299

22·89 Indio, Riverside Co. Cal.
IX·17 - 1 mile from to foot
of mtns. to north. sea-level
to 50 feet abv same.
Orcuttiella H. few in bald
grass under palms at mouth
of canyon.
Paroprosula in coarse
green bunch grass, some IH
Bouteloua few in greenwood
on sloping plain.
Lycium some
Tidestromia 17 H some,
Suaeda scant in
desert brush on sloping
plain.
Heliotr anduc very few

in wash of granite gravel
Trixis nuda annual daisy.
Dicot delic annuals no
on low gray desert
sandy plain on sloping
plain.

6299 + 29 = 6328

22.90 Ajo, Pima Co., Ariz. IX·18
Elev. 1800?ft. Little Ajo Mts.
Arboreal desert canyon,
low hills - gravelly
stream with small stones
& rocks fragments - in
most places v very scanty
dry short yellow "six-weeks"
grass - Veget. creosote bush,
palo verde, ironwood, giant
cactus and a few organ
cactus -

Rhabdocnemis 1♂ R beetle
from creosote bush.
Figuror common in
greasewood
Boolitis acuta
Eusara coulteri acuta

2 in town on walls of buildings.

Sol naja few in locality on hillside

Sponges apical all H' in decaying pulp between dry shell & woody core dry wash 2/1
giant cactus. most common

Lichista few in rock fragments of hillside gullies.

Ictinaetia few in locality on hillside.

Cyclopeltum same locality

Sarcodactilus 15'H 26'R several fair not kept, in creosote bushes and low mesa ridges plant.

Calamaxis 1/2" H in gray clay
nests of dead brush under a small cat-claw on hillside.

Acanthurus locally in small numbers in clear brush with gray black thorn, particularly under larger desert trees such as palo-verde & cat-claw

where parts used dried
forming a pile of dead
sticks. 1 R, others H.

Boresidotes 1 j H same.

Mel aridus fr common
in small low clumps of a
dense brush. gray-leaved

Mel salinus 1 H same
leaves more as
gradually slopes to acute
grains as dear above

Trium nius accrual same
Nestobregma all H, small
numbers same.

Helianthus? sp.? yen dist
in mod mos same and
about buttes where last
occurred.

Adiastus aridus yen in
bare gradual slopes & in dry
stream bottom.

Stagnorum 1 R on grassland

Eumorpedes albopunctatus
1 R beaten from
dead
arctatus 2 H from mel
aridus brush right on hillside

Peniocactus 27 H Ina Ajo in
green straight-stemmed Acacia
desert bushes growing in
gravelly wash.

6328 + 158 = 6486

22.91 6 miles north of Ajo in
the Valley of Ina Ajo, Pima
Co. Ariz. 200 ft lower than
Ajo. IX.18.

Plain gravelly with
much creosote bush,
many (Enc 22.91A
Lycium sp.)
bushes near wash with
palo-verde, mesquite &
cat-claw. areas heavily
dotted with "six-weeks"
grass Dimorphotheca
Cephalanthera very scarce
in plant bush 22.91 A - 27 R
others H. All in this bush
except 1 ♀ in cat-claw -
these insects sit on the
gray thorny stems with
antennae together and
directed forward and
caudal horns at right

Arizona Desert Botanical Laboratory
Tucson, Arizona

so that these appendages give the appearance of the thorns and the. ixias are very difficult to locate. Though they can leap vigorously all were easy to secure, after having been located, by a steady & very gradual approach of the fingers, when they remained motionless until seized, apparently relying on their great resemblance to the twigs & thorns of the bush, 2 pair were found in coitu. Over one hour was largely spent in securing the series

Horesidotes 1 ♂ R, Ellers ♂ - R beaten from low treeless plain with large grey withered leaves. Ellers 7H small numbers in thick piles of twigs under bushes along roads.

Acadtheres 1R beaten from straw like bush, 5H as H horesidotes and in equal nos there

Solidago virga-aurea var. gracilis Bruch & Trees also in sandy waste

Solidago nemoralis Ait. H. Kud up into mesquite / Tole from burbus along waste.

Sonchus asper All. nos in fields or waste, partic more growing in barn or orchard borders.

Sonchus oleraceus L. in sparse grassy patches on gradually soil.

Specularia leptocarpa common in green sandy plants along waste.

Specularia perfoliata (L.) A. DC. in small nos.

Lactuca virosa L. one small base gradually across near Jarvis Ave H.

Rhus toxicodendron 2 H in creosote bushes.

Ericameria arborescens (Gray) Greene also 15 H 37 R same.

Stephanomeria virgata Benth. 17 R 17 H same

Lygodesmia exigua Gray numerous same, in sandy 22-91 A and other desert borders

Lygodesmia spinosa Nutt. common in creosote bush, more taken

Cyclops beaten from creosote bush 19R

6486 + 109 = 6595

22.92 Ajo, Pima Co., Ariz. IX.18 night at light — all men taken except as follows.

Lepreo common
Trim nine acuel, 0 Tabun
Lusara covillea over 40 men
Pustoler townsendi daly
as many more men.

6595 + 84 = 6679
+ 19 = 6698
and probably 60 others.

22.93 Quitobaquito, Pima Co. Ariz. Elev [illegible] IX.19

Eucopt mod common in salt grass areas about springs, all H.

Xenobius appar mod rare same zone Abrodel atéu 19R.

Lettijid 2H Tucs on border of Quitobaquito.

Silamutria 2R beaten from a variety of desert bushes

Sclerogra 1H in desert bush
Ancosia mod common in
bushes (Acoloplus bursa)" on
flat below springs.
Acoloplus mod rare in these
bushes.
Sclerogra 1SH in mesquite
near springs
Tryphodulus all H, on bare
adobe same situ as Ancosia
Dendrotumus 1SH only once seen
same.
Pul arridus gr Juv in bushes
about springs and also in
desert bushes on sagebrush
bare hillsides, & dotted
organ cactus.
Pul bakeri juv in bushes
& plants near springs.
Gadisia 1H on bare southern
running desert scrub on
hillside.
Susana Megas jR beating near
springs.

6698 + 87 = 6785
and 7 others

22.94 Quitobaquito Hills, Pima Co. Ariz. About 200 yds above Quitobaquito

IX. 19~~18~~. 41

Granite gravel arroyo wash, elumpo & greasewood, mesquite, cat-claw & other bushes. Rolling hillocks in draw below S end of Broadleaf mts.

Sitzmoun 1R

Cudoxara-libra all H beneath bushes, edge of arroyo, scarce

Loetisia very few scarce.

Tomostius az all H. on gravel pebbles, slope or edge of arroyo

Figurotettix common in gravel & other desert brush.

Trepidulus on bare gravelly soil among bushes, few

Phil arudus qua climb in small mes in Sandy desert veget.

Phil browni H in plants in arroyo

Hel vridus on bare pebbly soil near arroyo H

6785 + 41 = 6826

& 5 others.

2295 Browder Valley, just south of Browder Pass, Pierce Co., Oreg. IX. 19 100 ft? Nigger Mtn 22.94. 1200 ft.

Cratitea Jus in creosote bush

Parabacillus 1/2 ft. Washes from vegetation in wash.

Panopomuala. Common in coarse grass called "Gallatta Grass" in wash.

Factista Jus on gravelly plains near border of wash.

Tomonotus very Jus same as 2H.

Syntrotelly common in creosote & other bushes.

Eremos albopasc 1R from creosote bush.

Nuel aridus Jus sterile stem plants in wash and borders of plain. 1 female B showing Jus color pattern.

Haresidote 1/2 R others H occurred in wash among grass. parts near bushes with a litter of twigs beneath.

Scauteres Jus same

Tupidulus Jus on plain on bare ground near wash

Leprus 1H, only one seen.

the sp is very scarce in this region, not seen but 2 or 3 times in Little Ajos it is very common

Nectoba 1H in short dry grass of wash

Aretha 2. Palmeri occasional same

Mul Brownii gr yes in plants in wash

Mul Lehmanni common same

Psoalea 1H very scarce as Nictobragma.

68.26 + 85 = 6911
about 35 others

22.96 Browler Pass, Browler Mts., Pima Co. Ariz IX. 19 about 100 ft higher than 22.95. 1300 ft

Wash w large Palo verde trees, much ~~yucca~~ greasewood & bursh 22.91A Some giant cactus, Ocotillo etc.

Ad viridiflorus 1R

Mul Arizonica gr yes distr

Mul Brownii gr occas

Fouquieria common in bursh

Koeberlinia 1H among twigs under bushes in wash reserve.

And also

Rhus Aromatica 2 or 3 H on greenwood in Valley of the

ajo - Prob fairly common as three were seen from automobile, resting high in the bushes.

Sceloporus orcutti 1H at lg. on train; Silver Bend, Ariz. IX·18, at night.

6911 + 20 = 6931.

22.97 Nogales, Ariz. IX·19 20 about 6 mi NE of town, top of rolling hills - Elev. 4000, ~~about~~ ~~300 ft above town~~).

(Range ~~was~~ ~~here~~)

1. Bradypodion mod common
2. Phrynosoma 1H
3. Aplisia crassa common generally distributed in scattered colonies.
4. Neotoma lepida small numbers in particularly rocky areas.
5. Neotoma capito 1H
6. Dactylotum very fine.
7. Peromyscus mod common.
8. Boopedon large few
9. Boopedon smaller common
10. Microtus mex common everywhere
11. Microtus pinetorum common
12. Condylura mod common - parties in July in Joseph

& low sprays & acacia & mesquite
13. Aplomatella australis very scarce.
14. Tomonotus agilis 1H very scarce.
15. Tul desultorius occasional same as 12.
16. Trim vinc few locally no date spots.
17. Eumopedes albofasc 1H
18. Eumopedes splendens 1H
19. Schistoc vaga 1H very few
20. Yersinia few in short grass
21. Paraponera very scarce same
22. Saylleria few very scarce

6931 + 151 = 7082
and about 40 others

22. 98 Nogales, Ariz. IX. ~~29~~ 20
8 mi by road "River Camp" in Santa Cruz River bottom — A sand & gravel, short grass bet dry grass, patches of wet grass, great cottonwoods.
Elev (about 200? ft below town?)

Rolling gravelly hills covered with scanty short grass & weeds, some cat-claw, mesquite, yucca

13 gravelly plain between river bottom & hills. Short dry grass, much mesquite & some low cat-claw.

1. Bradyspola A. 1 R only one seen
3. Aplasia common gen distr
4. Very few in short grass
5. Very common in short grass in B, few A.
6 Very scarce same B
7 mod nos in short grass A and B, numerally and slow in its movements & very easy to collect.
8 mod nos in short grass A
9 common and gen distr,
R more adult than A only in short grass A, & the smaller more adult elsewhere.
10 very common everywhere
12 few B
13 scarce A & B
15 scarce B
23 Orchelimum concinnum all H. In grass but not high grass in wet spots. Very local but mod common
24 Conocephalus fasciatus rare but scarce. 2 H
25 Scudderia mexicana 1 H In high but scanty weeds on river bottom.
26 Atlanticus benjamini common

on gravelly wash running into river bottom. 1R Rotters H

27 Paratettix tolteca very common in damp spots of main wash of Santa Cruz river.

28 Dusara elegans 1H. Flwood & mesquite. B

29 Titanuetris ocularis 1R under mesquite B.

30 Trul differentialis small nos in weeds A.

31 Acantherus piperatus 1H in short grass near mesquites, one other alone seen in same under Opuntia sp.

7082 + 237 = 7319

Pajarito

22.99 Foothills ~~Oco Blanco~~ mts., Santa Cruz Co., Ariz. IX. 21 ~~20~~ (arivaca road about ½ mi east of mts, 300 ft ? above nogales) 4400 feet (est)

Summits of rolling gravelly hills covered with scanty grass - Very little cat-claw & mesquite.

1. 1R very scarce
2. 2H " "
3. Common
4. Fairly numerous
6. Very scarce
7. Small numbers

9. common
10. "
11. ~~aaaaa~~ occasional
12. small numbers
15. very common
16. small numbers.
20. few
21. one H.
32. Conozoa carinata 1H on gravel!
33 Hesperotettix l.c. few in stiff broom-like composite
34 Conocephalus strictus few
35 Syrbula acuticornis few in brush & grass between large boulders on mountain side.
36 Tubanophlus pondrosus very scarce, ~~all H~~
37 Hippiscus neglectus 1? H
38 Dracantheus green, red proximal 1 or H beating from brush near 35.

7319 + 76 = 7395
about 15 others

22.100 ~~Oro Blanco~~ Nito, Santa Cruz Co Ariz IX.21 – See map ×2. Western slope. ~~55 52 1/2~~ 52 1/2 Valley dotted w oaks, gravelly soil with grasses which in the small arroyos are mod heavy & tight.

3. mod common
6. very scarce
9. common
12. in small numbers but generally distributed
H. very few
19. 1 H in grasses
20. very few
34. small numbers
42. 1R only one seen
45. 1H " " "
46. Very common, much the most abdt spp of ortte at this locality.
25. 2H very few in delicate wood-like tall plants in grass.
51. few few in grasses.
52. very scarce few in grasses.
53. Arctiidae 2 w 1/2 1 H.
54. Stagmomantis limbata in grasses & low cat-claw, the latter w many cotteeae in this valley.
55 Acrididae Tettigoniidae all H in tight thicker grasses in deep arroyo.
56 Cryptolaemus 1R 7395 + 75 = 7470

22·101 ~~Rio Blanco~~ Patagonia Mts, Santa Cruz Co. Ariz. IX. 21 Highest ground on road to Arivaca Elev 55-5700 ft. All R unless otherwise noted.

3 common in more level places.

6 all sun taken

8 everywhere common

12 everywhere few

15 local, moderately numerous

29 27

35 pair numbers in richer grass in arroyos.

37 2H- others R mod nos in grasses on flat surface area of bare of ridge.

38 1H

40 1?H, others R local in small numbers. 1 pair in coitu.

42 very scarce on bunch

46 common

49 beaten from grass

50 1?H, others R among patches of richer grass on rocks

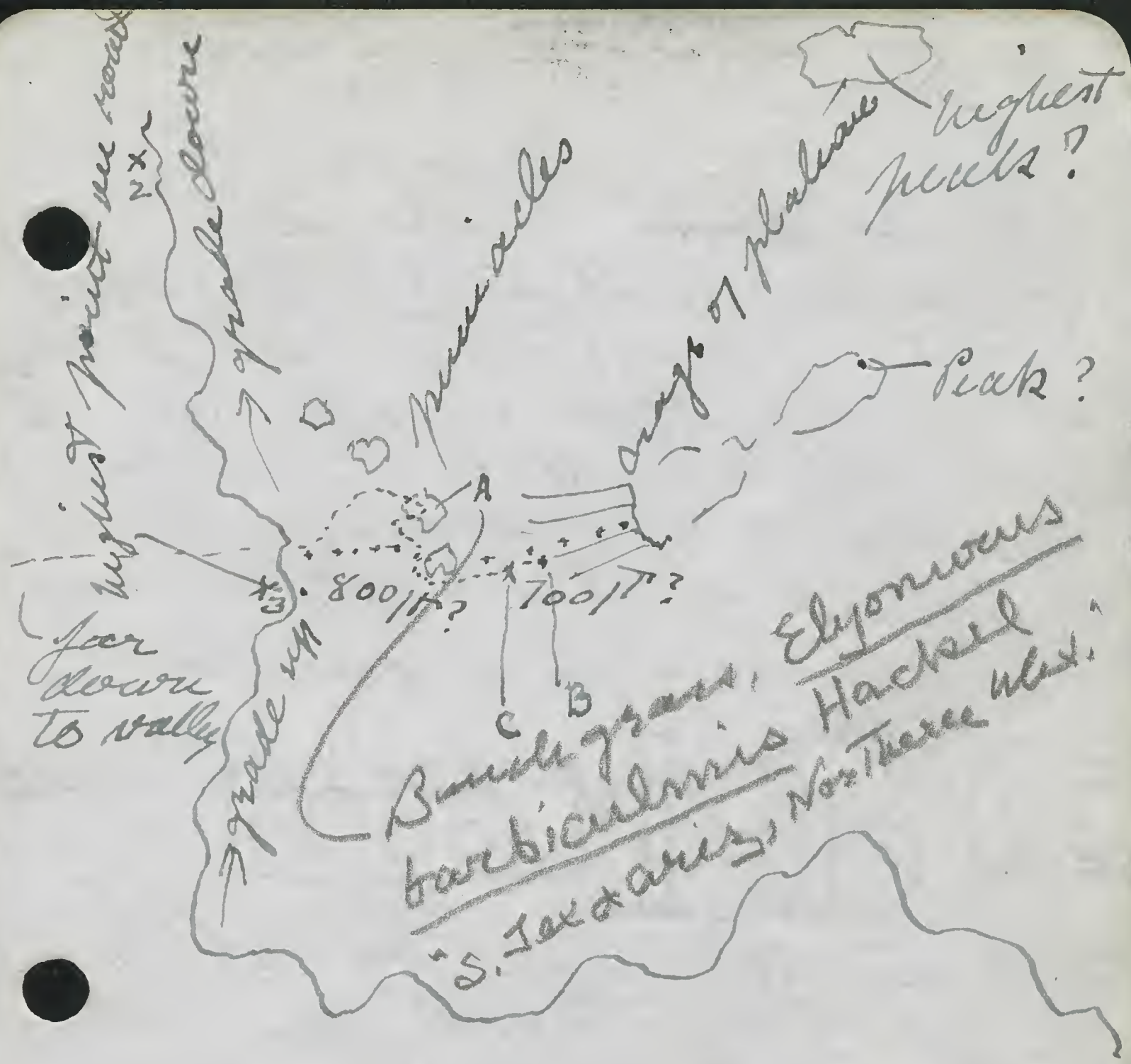
51 very fine fine.

52 one fine.

7470 7531

~~7395~~ +61 = ~~7456~~

± 20 others


highest mountains in region
Grande Cloche
Grande Cloche
Grande Cloche

22.102 Bro. Plumes Hills.
IX.21 Santa Cruz Co., Ariz.
6500 ft = Mixed

H to about 1000 ft above
America road at its highest
point. Very steep mountain
slope with grasses & dotted
with oaks under which a
few sps of flowering plants
occurred & at bases of sags.
3. common in dip on ridge
800 ft up.
6 one on steep hillside about
100 ft up.
9 common in grass except
on steepest slopes to 1000 ft up.
12 few scattered but ad
all points up to 1000 ft up
15 occasional same
18 17 about 800 ft up in grass.
20 very few as 12.
33 same as 20.
34 occasional in grass except
on steepest slopes to 800 1000 ft up.
35 few in grasses & plants
among boulders & scrappy
to 800 ft up. Elymus barbicalvis Hackel.
39 Prosopis pubescens
on the few flats at the
summit of the first ridge
in sandy deep hollows by

grass 20↑ were secured; at
a situation in every way
similar but covering a
few square yards the
others were taken. They
press themselves tightly to
the grass stem on which
they rest with antennae
directed forward along
& touching the stem. When
disturbed they attempt
to leap to other tufts of
grass, the slender bodies
of the males bending curving
decidedly while in the air.
40 Poecilotettix pratteranus
in grass where a few weedy
plants occurred, widely
distributed & always very few
in number, to about 100 ft
above road (from road)
It was noted that the
majority would fly, while
the Micropezotettix to "other
grass stem disturbed but
rarely the grass stem
and rustic there rather
than on the ground where
alighting. The Jew, however,
were seen to fly to and

perdu on the bare faces
of the rocky cliffs when
flushed at the base of them
41 Oreia sp. very in the
same areas but decidedly
more numerous and distr.
over all wider areas - 10 000 ft up
Elsewhere, at the same
elevation but in richer (41)
grasses this sp nowhere occurred
The males, though having
exceedingly great saltatoral
powers were by no means
wary & could be easily secured.
42 Neotoxeuma rubripenne
few in open gravelly areas
under oaks only between
7 & 800 ft above road, about
and near summit of ridge
& crags.
43 Scudderia pictifolia very
few in oaks up to 800 ft above
road - they were also seen
appar more numerous about
oaks in canyon some 500 ft
below highest points on road.
44 Amphitornus few generally
distributed thro grasses
on summits & slopes 0 to 800
ft above road.

45 Lepus blue winged Two in bare spots in grass from 0 to 600 ft above road.

46 Phoebaleotis nubrasc common three grasses 0-800 ft above road.

47 Scudderia pur furcifera Small numbers in grass & scrubby weed-like Splanto 300-800 ft above road.

48 Conalcaea Insadunicana Two in dead oak leaves & grass under oaks among rocks 600-700 ft.

49 Parabacillus Coloradus Two in grass up to 600 ft above road

50 Periscus very few in grass near other plants from road to 700 ft above. This is a sluggish sp, usually found clinging to the grass-stems. The brilliant green with pale red nearly gives the insect an almost ruined appearance.

51 Acheurgus pini two as 39. add

52 Anabrus Tenuis Trypidia two as 51

7531 ~~7456~~ +98 = ~~7554~~ 7629

And ± 15 others.

22·103 Patagonia Mts. Santa Cruz Co. Ariz. IX·22 4300-4700
Elev about same as 22·97
Sycamore Canyon
A plain of sandy gravel sparse grass, some total, occasional mesquites & cat-claw.
B sandy wash, bordered by weedy flat w walnuts
C stony hillside, weedy there w large oaks at base
1 H One only, Widely in total A
3 1R very fwd A
4 fwd C
8 1♀R on weedy flat beside river wash, highest elev seen B
9 mod nos there.
10 Very common everywhere in weedy flat & hillside B&C
11 Common A
15 common A
21 1H C
26 all H, mod common on bare sandy river wash
30 1H, fwd in weedy areas near Camp B
32 fwd in river bottoms B
36 common A
54 in small foot-high mesquite, eating a female of teal pulverulatus R 1♀ A
~~55~~ 57 melanoplus spiciger 1♀H B
in weedy area

7629 + 54 = 7683

22.104 Patagonia mts., Santa Cruz Co. Ariz. IX.22 5600-6000 ft

As high as summit reached by road to about 400 ft below that point. Travelled ridge thickly supplied with grass. A few oaks, yucca etc. South slope.

1 very few
3 colonies generally distributed
4 mod common in grass
6 very few
9 common & few dist
10 great numbers
11 very scarce at lowest point
12 mod common
13 frequent
15 few, from 400 ft collected
20 occasional
21 mod common in grass growing about a foot high.
29 a few
35 scarce 2H upper point to 100 ft below.
38 1 ♀ H
39 1 ♂ H in bunch grass at summit of ridge, no other new though careful search was made there.
40 2H at bottom of 400 ft ascent

42 Very few on top of ridge in small open areas among grasses.

44 generally distr throughout grasses over 400 ft of altitude covered, commoner at lower levels, there occasional.

45 few in upper end of 400 ft covered, on reddish rock fragments - all but 1, H.

47 1H near top of ridge

48 17H in dead leaves under oaks on summit of ridge

forest elev - for this species

51 1 juv H as 39.

53 occasional in grassis

54 17H resting in sotol.

7683 + 127 = 7810

about 30 others

22.105 Palagonia Mts., Santa Cruz Co., Ariz. IX·22 6000 ft

Highest point on road.

Rolling country heavily forested w oaks, gravelly soil covered with grasses and a variety of yucca plants. All R unless otherwise stated.

4 sand & gravel roads
fragments very scarce
16 scarce
20 ace running among
grass in glade among
oaks.
32 as 4!
35 17 in grassy spot among
oaks
49 17H climbing on machine
undoubtedly from 22.104
48 scattered thru glades
among oaks, scarce but
generally distributed.
58 Melanoplus aridus
as 48.
59 Spharagemon rad leg
1R 1H. Very scarce, as 48. A
very active insect, flying
with great vigor and often
over the oaks when disturbed
10 in weeds near road,
common there but nowhere
higher than this.
2 ♂ ♂ running on ground
under oaks.

7810 +31 = 7841

about 15 others

22-106 ~~north~~ peak of Patagonia mts., Santa Cruz Co., Ariz. IX·22 6300-6900

300 ft above highest ground on road to summit — 500 ft ? still higher.

Steep slopes thickly dotted with oak and a few scattered juniper - a few large pines at summit also. Ground covered by mountain flowers & some green grass on ground.

Coll H.

2. 10 ft in boulder strewn opening on ridge.

58. Few among mountain flower herbage; to summit

48. very scarce in dead leaves under oaks, 1 ft on bare ground of small opening on summit.

60 Immerst. cyaniopennis occasional to 50 ft below summit on bare rocks & boulders of steep slopes

7841 +24 = 7865

22.107 Patagonia, Santa Cruz Co. Ariz IX.23

On front of gasoline RR car.

61 Schistocerca shoshone 1♀

Arphia crassa at station

62 Mel Thomasi 5 ♂♂ and 3H in fields of sunflowers and dry weeds where they were most abundant, other spp such as M. Salsicus & the smaller Boopedon were there in great numbers

Hyl benjamini 2♂ 1♀ one grave

7865 + 4 = ~~7874~~
12 7877

22.108 Elgin, Santa Cruz Co., Ariz. IX.23. Elev. 4710 ft.

All on front of gasoline RR car, H.

29, 1♀.

62, 1♂, 1♀.

63 Merriria mac macilipennis 1♂

7877 + 6 = ~~7882~~ 7883

~~7874 + 4 = 7878~~

Mestobregma rubripenne 1H

22.109 Fairbank, Cochise Co., Ariz. 3859 ft. IX·23 all H.

Bottomlands, mostly thick mesquite, a variety of sandy grass areas of burdock & green weeds.

Not differentialis few in weedy spots.

Not Latreillei common in heavy grass areas & weeds

Phaeidole nebrasc few same Not picturi gr same!

Neuronia mcculloughiana very few in tall green grass near water.

Conozoa carinata common & generally distributed on adobe.

64 Dorotoma/laticinctum large colonies on/smooth bare adobe near pool.

65 Eucophtalopleus same, few on border of pool & in short grass turf.

66 Macrocephalus tropis 1 pair in same grass.

67 Trimerotropis pleuralis one in bare, probably area

Stagmomantis limbata 1♀ in mesquite bosque.

7883 + 33 = 7916

22·110 Osborn, Cochise Co., Ariz. 4700-4800 ft. IX·23.

Two small limestone hills, grasses with patches of 4 meter-high scrub oaks, natal, ocotillo and other desert plants, below this a gradual draw with a zone of shadebrush and below that a zone of grasses dotted with yucca, then a mesquite flat.

3. scarce in grassy areas
4. mod numbers, local, same
5. fairly numerous about foot of hill in grassy areas at 4750 ft. nowhere else
12 very scarce in bushes & grasses at summit of hill 4800 ft
13 very scarce on hill in grasses among bushes.
15 very scarce in bushes on hill
16 common in gravelly spots everywhere.
19 1 ♂ H in bushes on hilltop at 4800 ft.
21 two in grasses all H
35 in grasses about brush on hill.
38 frequent, sucking at dews

of spikes of low yuccas among black brush.

49 1H in grasses on plain

68 Dichopetala 1H beside pour Nuce-Nigh oak on hill summit. Nuche beating revealed no others 4800 ft

69 Arctiaca carila 1H in short grass at base of hill. 4750 ft.

70 Diapheromera arizonae? 2♂ 1♀R on nuniosa on draw in zone of black brush and zone of yucca.

71 Paniscopoda pulicosus 2H one 4650 ft in low mesquites one 4700 ft on black brush where from time to time it raised its legs in drops and made a shish-shish-shish stridulation. Below seized they raised repeatedly, this caused by the abdomen being manipulated in some way.

72 Oecia sp occasional in grasses on d at foot of hill.

73 Susara vocilans pair in several bunches, two of which were scattered there beside burrs at the upper edge of that zone. 4725 ft.

Melampodium ponderosum 1R

74 Helianthus rugosus 1R on bare gravelly soil on hill slope

75 Cordilleriae sp. in grass among black brush - sparingly in one spot.

7916 + 86 = 8002
about 30 others

22.III. Naco, Cochise Co., Ariz.
IX.23. 4590 ft.

Grassy mesquite plain with slight depression filled with heavier grasses.

Vulpia ponderosa mod common in taller

Eucrotaliotes nebrascensis very common same.

Bouteloua larga sp. mod

Stagnomarctis humbolta 2R same.

Yersinia 1R jumping about in sand grasses on gravelly area.

Aristida arizonica fid as mod ponderosus

Mesoberyma tourneuxii occasional in grass of mesquite plain

Erozoa carinata fid same

toward depressions.
Vireo dilectorius in tall
trees, probably coming
in from mesquite on river
flats.
Vireo Lanivireo cognitus, on
boulders, no.
Vireo Striatus 1 H. near.
76 Vireo vicinior 2 H one small
colony on smooth bare adobe in
weak depressions all found in one
area of a few sq yards.

8002 + 74 = 8076
su below
about 10 others

also IX·24 revisited same
spot and recovered 11 others all H.
77 Xanthocephalus Zanthocephalus 1 H there
alert and a powerful flyer
Vireo stramineus 1 H there
Conopsa carinata 1 R there.
71 mod common in mesquite
about town. The majority
in low bushes, possibly due
to the fact that a high wind
was blowing.

8076 + 54 = 8130

22.112 Don Luis, Cochise Co.
Ariz. IX.24. 5100-5150 ft.

Rattle mountain slope with much limestone & areas of small rocks fragments. Considerable pine grass, a radiating running gourd, agaves, ocotillo and mimosa

2. H Pyrgotettix H in areas of small rocks fragments, one pair in coitu.

3. occasional but gen distr.

4. fair.

6. generally distributed, occasional clusters

7. ~~elephas~~ 2H very scarce

10. frequent in meadow flat and at base of slope

11. all H, very scarce.

12. common and generally distr, particularly in radiating vine of gourd.

13 very fair

14, mod common in areas of bare limestone & rocks fragments.

15 fair in plants & small bushes.

16 common everywhere

18 17H

19 mod nos, plains lateral
20 occasional
21 very scarce 2H
29 1?H
32 Juv in gravelly wash
35 Juv in thorny spots
w sparse grass
36 scarce 1?H
38 scarce
42 "
43 1A
44 1H
46 Juv as 12.
52 3H in short fine grass
61 1H
68 1H
74 all H in area of limestone rock & pavements, 1 colony only

8130 ± 121 = 8251

22.113 Mule Pass 6038, to Juniper 32 at R 6800 ft. and mt: Ballard H 7350 ft, Mule Mts, Cochise Co., Ariz. IX. 2½.

Conolcaea machucana mod common under and in grasses in high scrub oak forest, 6038 to 7350 ft. Indiv Juv on summit of mt: Ballard in bald of heavy scattered wild flowers and

grasses, up to 6300 R.

Trium vine occasional
mule Pass to Juniper Flat
and far up slopes of Mt.
Ballard.

Cypros. mule Pass, on
rocky soil just above pass
6100 ft. 1 R 1 H. robustus D

Sphaeromeria pus in opening
in high scrub oak forest,
6100 to 6300 ft. all H.

Trium cyanopumis pus some
in rocky spots 6100 to 6500 ft.
all H.

Mel anidus pus in undergr
of scrub oak forest & in
mountain meadow bald
at summit of Mt. Ballard,
above mule Pass 6500-6750 R.

Mel bakerius pus in subal
meadow bald, summit Mt.
Ballard 7350 ft; also at pass 6138.

Mel corymbosus mod common
some, there only!

Phlox subrosacea 1 H. in
grassy ave opens, mule Pass.

Penstemon torreyi 1 H in grassy
in open spot on crest of ridge
at 6200 ft. 1 H.

Conyza canadensis 1 R At Mule Pass

8251 ± 65 = 8316

22.114 South end of Perilla Mts., Cochise Co., Ariz. IX-24. 4500 ft.

Gentle slopes, gravelly hills covered with scanty grass. Prosopis juliflora, creosote bush, bursage, ocotillo etc.

2. 1 H " "

3. Two in depressions filled with dense tiger grass.

10. small numbers generally distributed

12. mod numerous near 2 in bushes.

13. very scarce 2 H

15. common in bushes on hillside and also in rather large numbers in dense tiger grass of depressions.

16 common one distr

19 two on hillside

~~73~~ 18 1 j H beating fr creosote bush appear very scarce here

33 two in small clusters of a yellow-flowered composite

42 mod nos as 9.

57 1 H same

58 same as 15, in this locality more frequent in the washes, outside stiff & thorny made taking of the series more difficult.

62 1 H as 3, only one seen.

68 1 R on small clusters of a

yellow-flowered composite
½H on ground of numerous few
inches high.

69 1H Frankenia and dry grass
on hillside.

70 1½H Acacia Prosopis crossotbush

71 1H on ground near bushes
on hillside.

72 Few in sandy grasses on
hillside

78 Trimeratropis hadrot-lobis
locally mod nos on limestone
fragments on hillside.

79 Mul palmeri few on
hillside in sandy grasses,
mod numerous as 3.

8316+93 = 8409
and 7 others.

22.115 San Bernardino Ranch,
Cochise Co., Ariz. IX.24. 3783. ♀:
Valley river flood plain,
mesquite bosque - adobe soil
with much sacaton grass
(in large clumps) cenchrus (pig
weed ?) "curlis" weed, some
burdock (?)

Mul thomasi frequent
in areas of curlis weed and

grasses, particularly toward stream. Judex showed considerable shrewdness in tearing flying jumps toward the mesquite, at the foot of which they would hide — once Harvey reached that thorny shelter they were prac- tically safe from further pursuit. Others would hide in the litter on the ground while still others would plunge head first into the clumps of Zacatone grass wedging themselves deeply down in between the stems at their bases. They do not fly nearly as far as the A. differentialis usually does, this insect is much more difficult to capture owing to its much greater shrewdness.

And differentialis ocasionally

Nuttallia obscura Nutt.
Nuttallia brownii Jeffreys
Saxicava.

Phoca vitulina Linnaeus
Canadian Murphy and
Mosquiles, Partridge
Mesquiles.

Silvistorcia gracilis numerous
same, always playing to
Mesquiles. The sp. is
appar an inhabitant for
the greater part of the
bubble.

Conocyon cancellata common
on bare adobe areas.

Peromyscus [illegible] Baileyi same
and local, in cowid colonies.

Heleastes bryanti 2 H
common on [illegible] bark
dry portion of [illegible]
bed.

Dipsheromera 2 H others R
common in Jacalone grass,
small mos in new fields
the majority in willow.

Boopedon longe nod
numerous on M. thomasi
Peromyscus calamus (?)

81

very scarce in Sacaton grass

Aplysia same.

Arphia crassa 1H only one seen in same area.

Neurotrix maculipennis very common, in great numbers in Zacaton grass.

Paratettix 3H very few on damp ground along edge of flowing streams.

Stenonia 1♂R in curlies weed among mesquites.

Conoc stirrulus 17R beaten from Sacaton grass

Dull dentatarius very few in this area.

8409 + 213 = 8622

22.116 San Bernardino Ranch, Cochise Co. Ariz.
IX.24. 3900 - 3950 ft.

Plain covered with rounded clumps of bunch, areas of yellowing sparse grasses elsewhere is mainly creosote bush, ocotillo, mimosa.

Phrynotettix 1H on bare ground in small rounded clumps of bunch grass among creosote bushes.

Bradyrhizobium sp on ground nuts creosote bushes.

88 Scleroderma mexicana 3H all sun on succulents.

Leptus prey mites Larva streaks areas.

82 Rhabdoviralitis corallicae 2H axe on creosote bush, the other on succulents.

Tactista a sp small colonies on Larva gravel.

Mel corpulentus ♀R in grassy spot.

Heliaula rufa occasional small colonies on Tactista

Boopedon sp, as Microfludia Aphia sp in areas of short sparse yellowing grass.

Nesotes tournieri very few, same.

Nesotes capito small colonies same.

Diaphoromera on creosote bushes.

~~Coccc. Acrotus ♀R beaten from Baccharis grass~~

Tamiasciurus 1H in mimosa
Perognathus in same situ-
as Dipodomys merriami.
Sibemedura 1 ♀ H on Salicista
Yersinia 1H same where
there were small sprouts
of dry yellow grasses.

8622 + 118 = 8740
And 10 others

22·117. Douglas, Ariz. IX·26
3955 - 3985 ft.
Brachystola magna frequent
on low gravel & stone stream
beds in very scant grasses
and radicling gourd vine.
82 Ageneotettix deorum, very few
on bare areas there.
Eremopedes albopascalis
in very sharp narrow leaved
yucca, where they apparently
crawl in between the spikes
to rest; 1♂ on yellow flowered
weedy plant.
Mel. regalis 1♀ on ground
between little clumps of
grass & composites.
Mel. pondersus 1♀ same
Mel. palmeri same as mor-

fine distr. sauce.
Mel. Calsinus common, sauce
Mel. desultorius mod nos
as regalis.
Opia mod nos in areas
of yellowing grass.
Syrbula 1H sauce.
Tettigidea 1R, only one seen,
in vacation grass area.
Sch. vaga mod nos as
Mel regalis.
Acrydia fine there, frequent
small colonies in yellowing
grass areas.
Trim. circulata very
common & generally distrib.
Phaet nebrascensis H, very
fine as opia.
Trim Brevis 2H on bare
spots of low gravel & clay
elevation beside.
83 Amblycorypha all H, very fine
as opia but only at stop 3985 ft.
84 Encoptolophus costalis all
H fine about dry adobe,
mixed-grass.
85 Tragidocephus formosus
1R. as Mel regalis.

Mesoberyx IR as opuntia

8740 + 77 = 8817

22·118 Cañon WNW of Hachita Grande Peak, Hidalgo Co., N.M. 5000-5500 ft. IX·27
Very extensive sloping draw. Limestone pebbles & boulders, considerable fine grass. Above zone of greasewood — some desert shrubs 1½ to 2 ft high also in wash, much yucca, agave, notol, cat-claw, mesquite, opuntia etc.
Diaphromorpha all from notol, 18 attempting to copulate w a ♀ Rhabdocratella; 1 pair in coitu - all R. 5500 ft
Rhabdocratella, corillae 1 ♂ H on notol - all above. 5500 ft.
Anoxarx fuscatum mod numerous, gen dist thru fine grass 5000-5700 ft.
Boopedon very few same no higher than 4800 ft.

Symbula fuscovillata IR near low bushes 5500 ft.
Psoloessa texana 1 j H. June only, occasional 5500 ft.
Argia carsa fed in fine grass 5500 ft;
Pleuroleltix very fed on bare dunestone pebbles 5500 ft.
Lepreus clepleas in small numbers fed dirty 5000-5500 in largest mos at the latter very fed about this.
Agenoleltix very fed in fine grass. 5500
Veridia volitaria occasional but common in one spot at 5800 ft.
Bradyptola IH at 5500 ft in low bushes among scanty grasses.
Anthaxa cupida fed in fine grasses 5500-5800 ft.
Scopidoloplus formosus moderate numbers and generally dirty range 4500 to 5500 ft — in largest mos at 5000 ft.

Opuntia ? fus near small bushes by wash, in fine grass. not below 5500

Hesperostipa on ground among fine grasses 5500 ft 2R.

Muhlenbergia occasional in open spots w fine grass among yucca, Dasylirion, &c etc.

Trimerotr. Quadro-lobe common and fine distr some (where limestone pebbles carpet the ground) 5500 ft to 6600 (on steep slope, just above its base)

Mel. labacus fus in scant grasses 5000 - 5500.

Mel. aridus fus in small bunches 5500 - 6500 ft.

Dasylirion all R 5500, on ground w bushes & some fine grass.

Schizachyrium mexicanum at 5500.

Schizachyrium tenuis ap. at 5500 in "mesquite" B very (does mesquite grow this high?)

Acaulescens piperatus 1R seen R not taken, under mesquite at 5700 ft.

8817 + 146 = 8963
20 others

22.119 Denton Well, Playas Valley opposite Hacienda Arandas Peals, Hidalgo Co. N.M. IX·27
4200 ft.

Rich green grass area with green blades brush, bordered by mesquite & black brush.
Aristida pipercalica Juv in grass under mesquite, 1H
Dichopetalum 1 & H
87 Campylocaulon mod
sos in black brush partic
where there was water
Almost all just
grass.
adult.
88 Bootettix argentatus 1H
Juv into car in middle of
creosote bush zone at 4600 ft.
Schistocerca shoshone 1H in
mesquite.
Melanoplus differentialis juv in
grass near mesquite 2 & H
Dactylotum 1 R in open
grass among black brush
~~Bootettix~~ Boopedon
common in thick grass

Parabaillo same.
Diapleuromera 1H on mesquite
Aperia mod common in
side grass.
Aulobara Townsendi
Nestobrynia 1H on bare,
ground on edge of side grass
area
Mel balsmis very common
in side grass area.
Mel palmeri common, same
Phal nebrascensis " "
Xanthotaenia planum common
in black brush on adobe
flat. As many as 50
males could be heard from
one spot but were very diff
to secure as they ceased their
stridulation as one approached
in. 20 1/2 H.

8963+79 = 9042

22.120 - Same as 118 but up
canon 5800-6500 ft.
Spidser brush, largely
mountain mahogany -
a few juniper & pinon above
me

all the more gradual slopes. all H.

Agria occul, gen distr in scanty grass.

Convolvulus mod common same, always springing to brush when disturbed but slow and not difficult to take

Nul aridus occul in mtn mahogany & other bushes.

Abutilon 1 in scanty grass at ~~6500 ft.~~ 7200 ft on steep hillside (Rusby 22-121)

Pleurotelia all on areas covered w limestone pebbles.

Trim radrot-bila very few above 6000 ft but up to 6600, one being found on steep slope, mod

Sclerocarpus common in mtn mahogany.

Helianthus in scanty grass one at 5800 the other 6000

Symphoricarpos 17 varies at 6400.

Lepus californicus very few 5800, none above

Lepus black-sided Jack Rabbit 5800.

Neotoma occasional everywhere in openings between thick mountain mahogany bushes.

Sciurotellus very few in rocky grassy 5800-6000 ft.

9042 + 64 = 9106

22.121 Hachita Grande Peak, Hidalgo Co. N.M. Steep pinon covered slopes with many precipices 6500-7800 ft. all N. IX.27.1922

Canadensis few, as below, up to 7800.

Trium cyanea found in two small areas of limestone rock fragments in small numbers, 6800-7000 ft.

Parabacillus 1 juv in grass 6800 ft.

Trium rhodolabris 10 see 22-118.

Zyrcinia in short grass 7000 ft.

Dactricid 1♀ at 6900 ft in small opening in short scanty grasses.

9106 + 15 = 9121

3 other

Taeniopoda pictocornis

1♀ near ou Mimosa at Pratt, Hidalgo Co., N. M. 4400 ft. VIX. 26.

Also. 22.99. 1♂ 1♀ from beside road and were run over by tires of automobile, about 100 ft below situation in which collecting was done.

Nos., Cro Blanco to Hachita Grande Mts.

1 Brachystola
2 Phrynotettix
3 Arphia crassa
4 Mestobregma townsendi
5 Mestobregma capito
6 Dactylotum pictum
7 Jeprus elephas
8 Boopedon (large sp.)
9 Boopedon (small sp.)
10 Melanoplus lakinus
11 Melanoplus picturatus
12 Conalcaea Numphreysii
13 Ageneotettix australis
14 Jomonotus azteeus
15 Melanoplus desultorius
16 Trimerotropis vinculata
17 Eremopedes albofasciata
18 Eremopedes ephippiata
19 Schistocerca vaga
20 Yersinia solitaria
21 Paropomala sp. 1
22 Scyllina calida
23 Orchelimum concinnum
24 Conocephalus fasciatus
25 Scudderia mexicana
26 Heliastus benjamini
27 Paratettix tolteeus
28 Insara elegans

29 Tilaneutria oculoris
30 Melanoplus differentialis
31 Acantherus piperatus
32 Conozoa carinata.
33 Hesperotettix festivus
34 Conocephalus strictus
35 Syrbula acuticornis
36 Melanoplus ponderosus
37 Hippiscus rugosus
38 Oecanthus, sp. 1
39 Prorocorypha smowi
40 Poecilotettix pantherinus
41 Opeia (short-winged)
42 Mestobregma rubripenne
43 Schistocerca (green-lined)
44 Amphitornus coloradus
45 Zeprus (blue-winged)
46 Phoetaliotes nebrascensis
47 Scudderia furcata furcifera
48 Conalcaea huachucana
49 Barabacillus coloradus
50 Perixerus
51 Achurum sumichrasti
52 Amblytropidia
53 Arethaea (lwg)
54 Stagmomantis limbata
55 Mermiria neomexicana
56 Cycloptilum squamosum
57 Melanoplus pictus gr.
58 Melanoplus aridus
59 Trimerotropis alliciens
60 Trimerotropis cyaneipennis

61 Schistocerca shoshone
62 Melanoplus thomasi
63 Mermiria maculipennis
64 Derotmema laticinctum
65 Encoptolophus no. 1
66 Neoconocephalus triops
67 Trimerotropis strenua
68 Dichopetala
69 Arethaea carita
70 Diapheromera
71 Zaniopoda picticornis
72 Opeia *2
73 Insara covillea
74 Heliaula rufa
75 Cordillacris
76 Trimerotropis melanoptera
77 Xanthippus zapoteca
78 Trimerotropis (Hadrot-like)
79 Melanoplus palmeri
80 Schistocerca mexicana
81 Paropomala colaenus
82 Rhabdocerotites covillea
82a Heliastus aridus
83 Aulocara femorata
84 Encoptolophus costalis
85 Tropidolophus formosus
86 Psoloessa texana
87 Campylacantha
88 Bootettix argentatus
89 Goniatron plowerae

90 spp.

Data -

Salt Lake City - Can get "high" up in Wasatch in Big Cottonwood Canyon - Write Salt Lake Transportation Co.

C. D. Simpson - Forest Service, Ogden, Utah. Park City on D. & R. G. Ry. Ask about Americade Fork Auto Road

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To Virual to go into Uintas.